FLOW METER MEASUREMENT DEVICE

INSTRUCTIONS MANUAL **EN**

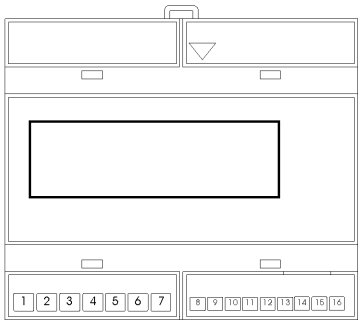
HANDBUCH **DE**

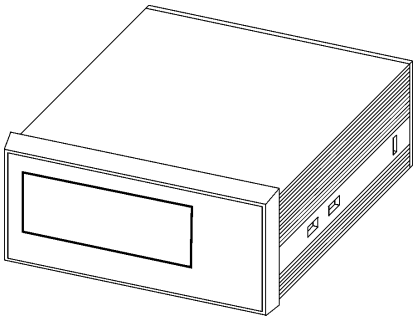
MANUAL DE INSTALACION **ES**

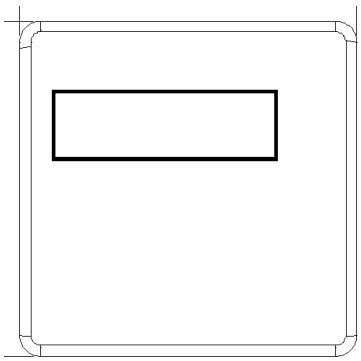
MANUEL D'INSTALLATION **FR**

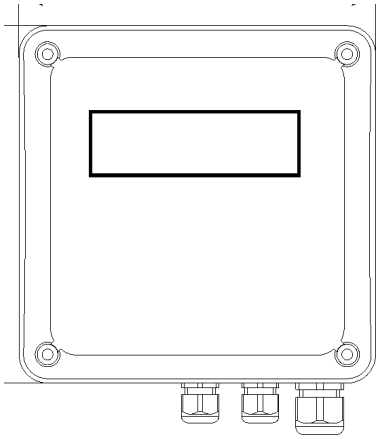
MANUALE D'INSTALLAZIONE **IT**

Flow meter measurement device









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1 FIRST OF ALL

1.1 WELCOME

➲ Please read this manual carefully, taking particular note of the warnings provided. Always apply the necessary safety procedures, including the use of adequate protection for your face, eyes, and clothing.

1.2 PACK CONTENT

- Measuring instrument
- Fixing brackets
- Instruction manual

1.3 TECHNICAL CHARACTERISTICS

Flow Rate range: 0÷99999,99 Flow unit Setting (signal input 0.5÷1500 Hz)
Precision: 1% Flow unit Setting

Current outputs: Range: 0/4÷20 mA 1 (max. load 500 ohm) [Precision ±2% F.S.]

Input: 15÷30 VAC/DC

Relay = 8 A (Max Resistive Load) **250 Vac**

Power Supply: 90÷265 VAC 50/60 Hz
Power rating: 5VA Max
Fuses: 500 mA (delayed)

Display: 2-line 16-character LCD
Keyboard: 4 keys

Dimensions:

- DIN Rail panel-mounted;
- 48 x 96 x 98 mm panel-mounted,
- 96 x 96 panel-mounted,
- 144 x 144 wall-mounted.

Protection level:

- Din-Rail = IP40
- 48x96 = IP40
- 96x96 = IP65 Front panel
- 144x144 = IP65 Full box

1.4 WARNINGS

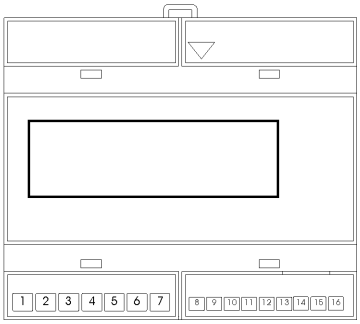
✋ Please read this manual carefully before installing and operating the system.
✋ The dosing unit must be connected to the power supply by means of an omnipolar switch with maximum contact separation of 3mm.
✋ Check the purchased model for the installation, setting and programming references contained in this manual.
✋ Refer to the control circuit map provided in this manual when making connections.
☠ CAUTION: **Always apply the necessary safety procedures, including the use of adequate eyes, face and hands personal protective equipment and the use of proper clothing.**
☠ CAUTION: **Before installing or servicing this equipment, always disconnect the power supply.**
➲ IT is always working towards perfecting its products and reserves the right to make changes at any time, without prior notice.
➲ Failure to abide by the standards laid down in this manual could result in damage to property or injury to people, as well as damaging the equipment or compromising its operation.

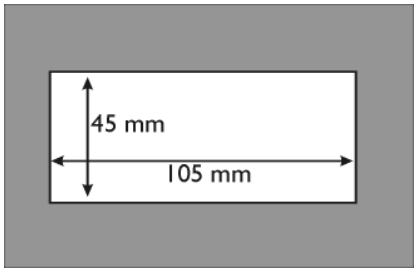
1.5 MATERIALS REQUIRED FOR INSTALLATION

Provide yourself with the necessary material for installing the instrument.

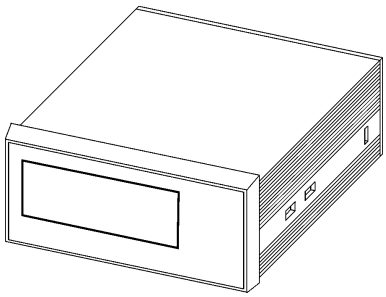
2 Mechanical and Electrical INSTALLATION

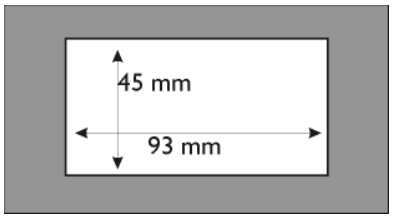
2.1.___DIN Rail Version (6 EN50022 DIN modules)



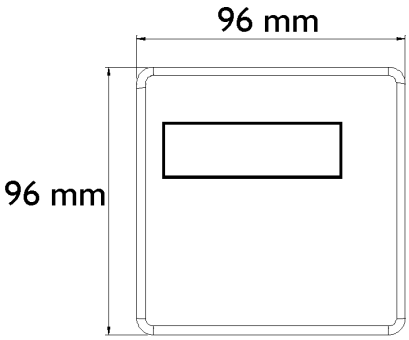


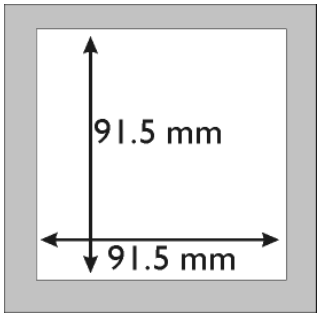
2.2___48 x 96 x 100 version



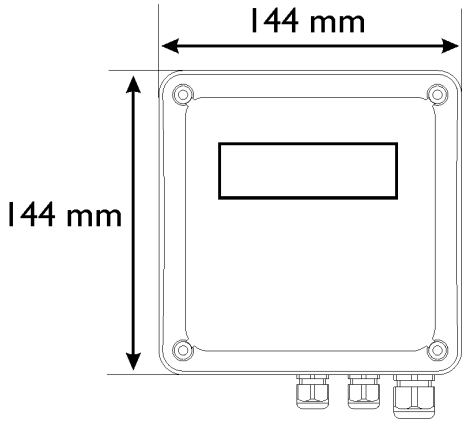


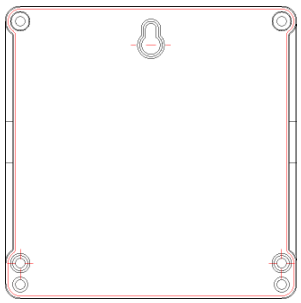
2.3___96 x 96 x 92 version

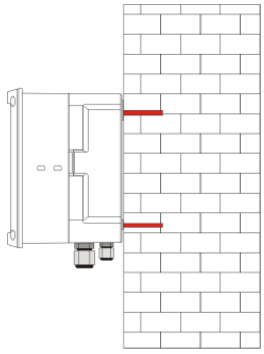




2.4__144 x 144 x 90 version



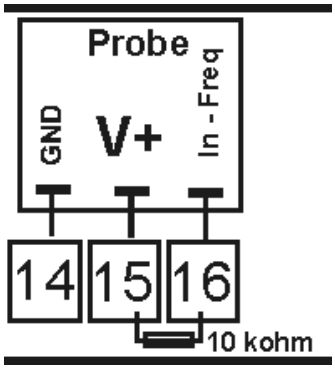




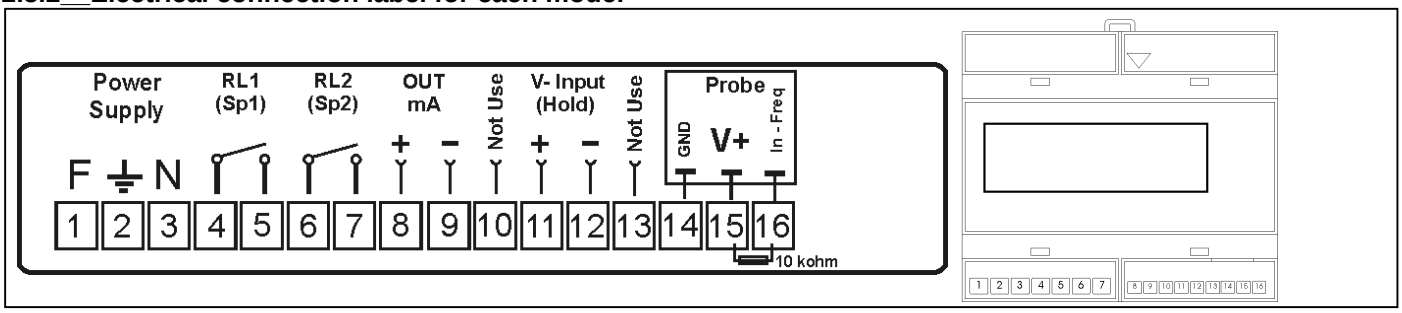
2.5 Description of electrical connections

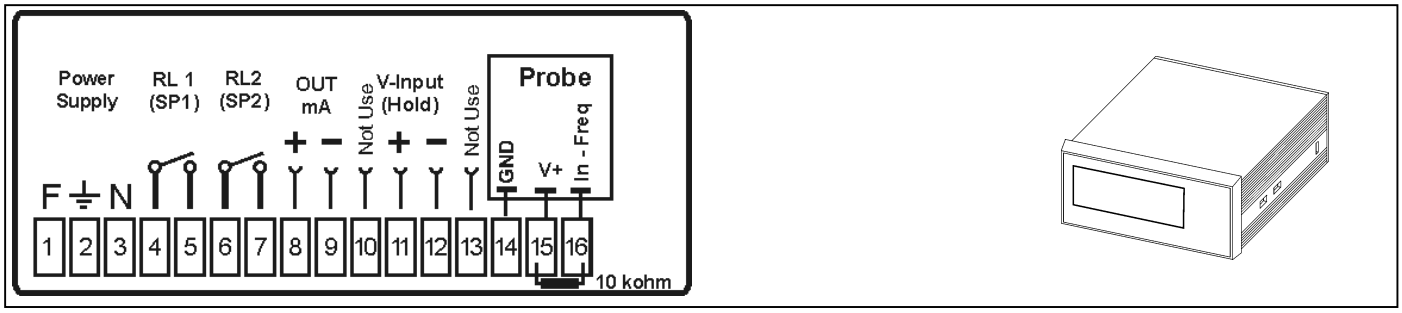
2.5.1__Electrical connection diagram

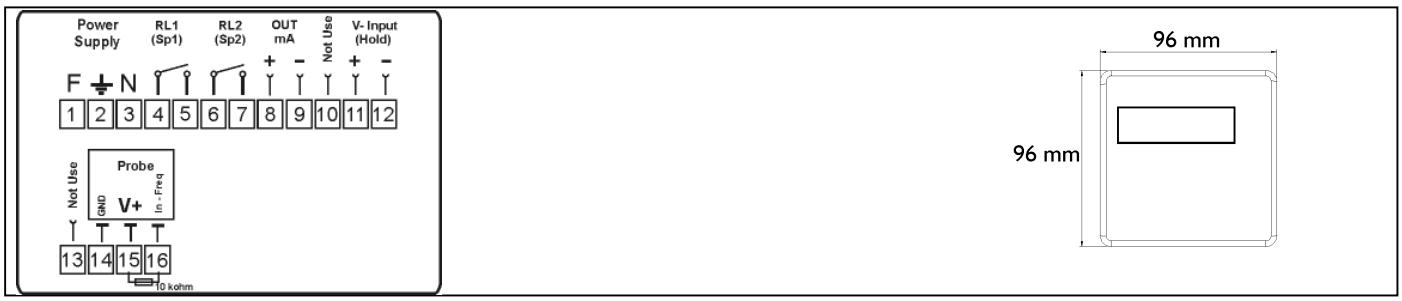
Terminal	Description
1	Phase (230 VAC supply)
2	Earth
3	Neutral (230 VAC supply)
4-5	Set Point 1 Relay
6-7	Set Point 2 Relay
8-9	0/4÷20 mA current output
10	Not used
11-12	Input 15÷30 Vac/dc **Hold**
13	Not used
14-15-16	Flow Sensor

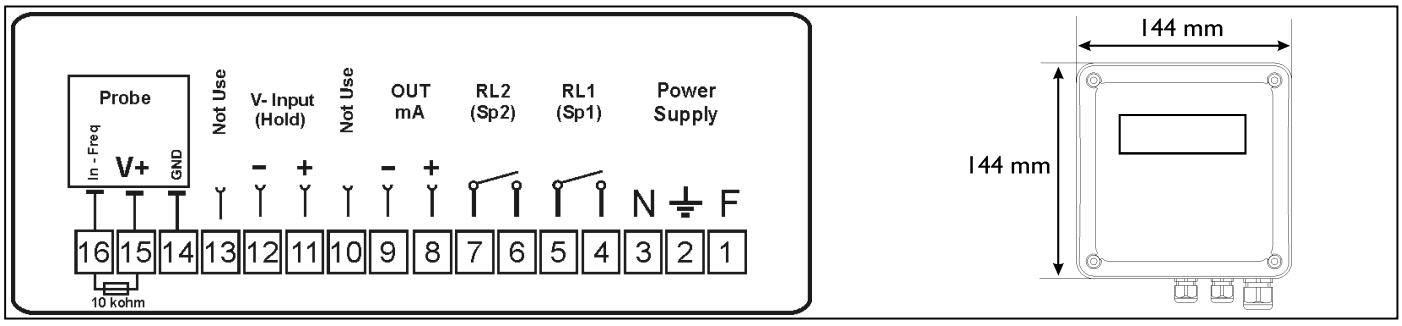


2.5.2__Electrical connection label for each model









2.6 PLUMBING CONNECTIONS

None

3.0___SETTINGS AND OPERATION

3.1__Instrument Display

Area 1 = Flow rate measured display
Area 2 = Permanent (Tp), resettable (Tr) or batch (Tb) totalizer flow rate measured display, selectable with **Mode** key

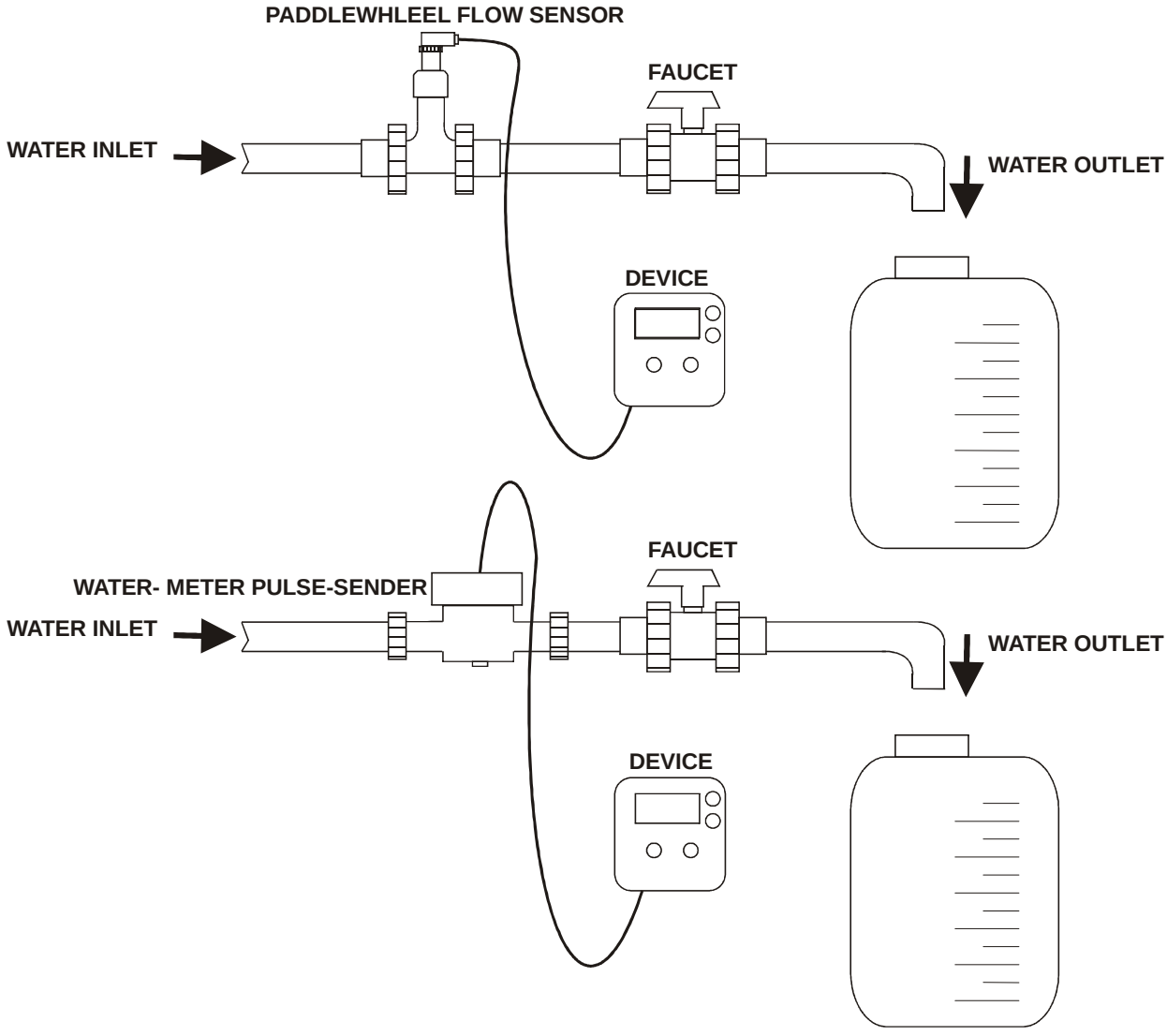
3.2__Instrument keyboard

Esc/Mode = Double-function key: **Esc** = Immediate exit from menu, **Mode** = quick settings menu
Enter/ Cal = Double-function key: **Enter** = Confirm function, **Cal** = Not available
Up = Up key or during normal operation, by displaying the **Tr** (resettable totalizer) or the **Tb** (batch totalizer) on the display you can reset them by holding it down for 3 seconds.
Down = Decrease key

Important:

A) Select the sensor in the menu **Advanced=>Control Panel=>Flow Sensor= K Factor or Water meter**
B) Set the parameter according to the sensor type:
- **B.1)** Wheel flow sensor, insert the **K Factor**
- **B.2)** Water meter with pulse sender, insert **pulses/liter**

Sensor Calibration Function



To start the sensor calibration procedure, press the ***Cal*** key for 3 seconds.
To stop the calibration procedure, press the ***Esc*** key at any time.
The instrument will show:

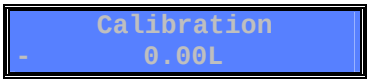
Before starting the procedure ensure that:

- There are no air bubbles in the affected pipe;
- The graduated tank is empty;
- The faucet is off;

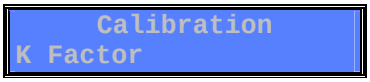
Press Cal and the instrument will show:

Note: The number on the bottom left indicates the number of pulses generated by the sensor.

Turn on the faucet and fill the graduated tank up to the required quantity of water to carry out the calibration, then turn off the faucet. After checking that the number of pulses has completely stopped, press ***Cal***. (If the ***Cal*** key is pressed with the number of pulses set at zero, an error is shown.)



Enter the number of litres read on the tank and press ***Cal*** to confirm. The instrument shows the **K Factor** calculated.



Press ***Cal*** to confirm the new **K Factor.**

Mode Function (quick programming menu) *(Press the **Mode** key for 1 second. Select using the up and down keys)*

- Press to select the Permanent (Tp), Resettable (Tr) or Batch totalizer (the Tb is only displayed if at least one of the two relays is set on the batch function).

Value settings menu function *(Press the **Enter** and **Esc** keys for 5 seconds)*

- Language (Set menu's language)
  - Available in English (UK), French (FR), Spanish (ES), German (DE), Italian (IT)
- mA output (Set current output)
- Advanced (technical management menu)

Default parameters reset function

- Switch off the instrument.
- Press the **Up** and **Down** keys together and turn on the instrument.
- The instrument displays "init._Default". Select Yes using the Up or Down keys and press Enter.
- The instrument reloads all of the default parameters.

Note: To exit the menus, press **Esc.**

3.3__GENERAL SETTINGS

Press the ***Enter and Esc*** keys at the same time. Value Programming:

Programming Menu			
Items Menù		**Default**	**Range**
Lingua			
Language setting		UK	IT; FR; DE; ES
Relay Out 1 = Set Point			
Set Point value		100 L/S	0÷99999,99
Type of dosing		High	High or Low
Hysteresis		0.0 L/S	0÷99999,99
Relay Out 1 = Batch			
Set Point Batch		1 L	1÷9999999
Type of Batch		Basso	Alto o Basso
Relay Out 2 = Set Point			
Set Point value		100 L/S	0÷99999,99
Type of dosing		High	High or Low
Hysteresis		0.0 litri/sec	0÷99999,99
Relay Out 2 = Batch			
Set Point Batch		1 L	1÷9999999
Type of Batch		Basso	Alto o Basso
Output mA			
Range 0/4÷20 mA		0÷20 mA	0÷20 mA or 4÷20 mA
Value for 0 / 4 mA		0	0÷99999,99
Value for 20 mA		99999,99	0÷99999,99
Advanced			
K Factor*		1.00	0,01÷99999,99
Water Meter*		1I/1L (Pulses/ Liters)	I=0÷999 L=0÷999
Flow Unit		L/S	L/S ; L/M; L/H; m³/H;GPM
Total.Unit		L	L; m³; GAL
Relay Out 1 Type		OFF	OFF, Set point or Batch
Relay Ou t2 Type		OFF	OFF, Set point or Batch
Hold Input (Can be activated independently on RL1 or 2)		RL1: ON – RL2: ON	RL1: OFF – RL2: OFF RL1: ON – RL2: OFF RL1: OFF – RL2: ON RL1: ON – RL2: ON
Calibration enabled or disabled		ON	ON or OFF
Statistics			
	Totalised Permanent value	0	0÷999999999
	Totalised Reset table value	0	0÷999999999
	Number of Hold input signals	0	0÷65535
	Statistics reset	Reset everything except Total. Permanent	
Control Panel			
	Relay 1 contact	Normally open	N.O. or N.C.
	Relay 2 contact	Normally open	N.O. or N.C.
	Flow Sensor	K Factor	K Factor or Water Meter
	Manual current output	Current generator 0÷20 mA	
	Frequency input probe signal	Displays the signal in Hz	
	Hold signal present	Signal present, ON	ON; OFF
	Maintenance	01/01/10 (Last or maintenance of a record date)	
	Firmware version	X.X	
Init Default (Instrument reset)		Restore default values	
Password		0000	0000÷9999

* when the parameter **Advanced=>Control Panel=> Flow sensor = K Factor**, in the menu **Advanced** you will see the item **K Factor**.
By setting **Flow sensor= Water Counter**, in the menu **Advanced** you will see the item **Water Counter**.
The selection of the flow sensor depends on the kind of sensor you are using.
If the sensor is calibrated in these menus (**K Factor** and **Water Meter**), the character "**C**" is shown (on the bottom right), indicating that the instrument will use the parameter recalculated based on the calibration.

Hold Signal

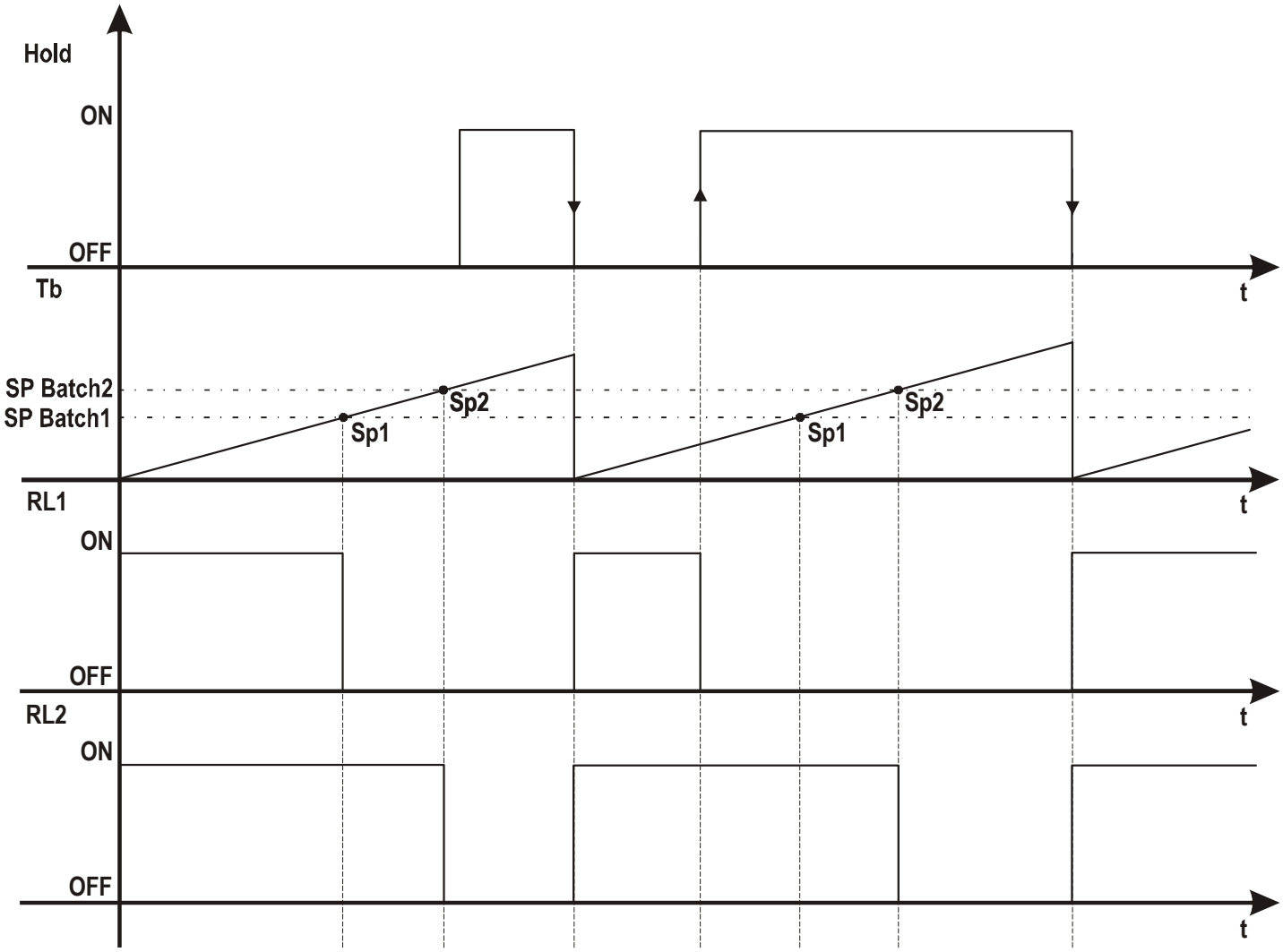
Hold is only activated if the signal lasts for 4 seconds or more.
On the descent front of the signal the Tb is reset if active on at least one relay.

Esempio Funzionale:

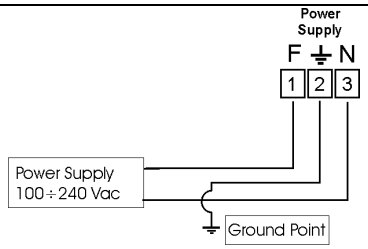
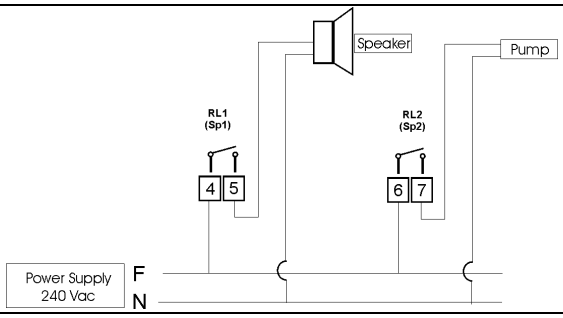
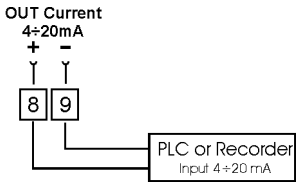
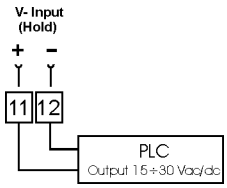
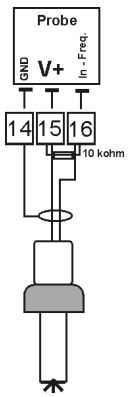
Relay 1= N.O. (Normally open)
Relay 2= N.O. (**Normally open**)
Hold= RL1:ON – RL2:OFF

Relay 1 = Batch
Relay 2 = Batch

Tiye of Batch RL1= Low
Type of Batch RL2= Low



Connection Wires

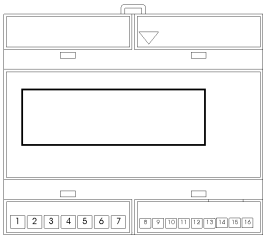
Power Supply	
Connection Relay for Speaker and Dosing Pump	
Output current signal for PLC or Record	
Input Voltage signal by PLC to lock Controller Instrument	
Connection Probe max length 300 meters	

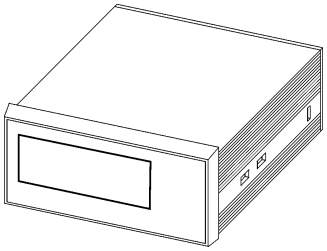
4 TROUBLESHOOTING

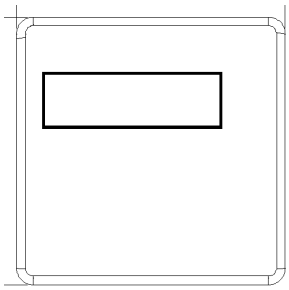
- **The device does not come on…**
  - Make sure that the power cables are correctly connected
  - Check whether the power supply is present
- **The mA output does not change…**
  - Check the cable connection
  - Use the “Manual Control” function in the main menu to check whether the output produces the desired effect.
  - Check the electrical characteristics of the remote device (maximum load: 500 ohm).
- **The VDC port voltage does not stop the instrument…**
  - Check the electrical connections
  - Check whether the remote generator is working.

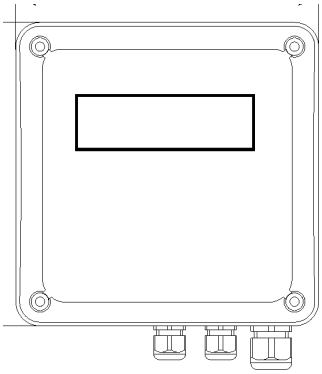
Note: If the anomaly persists, please contact the supplier.

Durchflussmessgerät









INHALTSVERZEICHNIS

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2	Installation	Seite 3
3	Einstellungen und Funktionsweise	Seite 5
4	Leitfaden zur Problemlösung	Seite 9

1 VORBEMERKUNGEN

1.1 WILLKOMMEN

➲ Bitte lesen Sie das vorliegende Handbuch aufmerksam durch und beachten Sie vor allem die Hinweise und Vorsichtsmaßnahmen. Halten Sie stets die erforderlichen Sicherheitsverfahren ein und benutzen Sie einen zweckmäßigen Augen- und Gesichtsschutz sowie Schutzkleidung.

1.2 VERPACKUNGSINHALT

- Messgerät
- Montagehalterungen
- Handbuch

1.3 TECHNISCHE EIGENSCHAFTEN

Durchfluss-Messbereich: 0÷99999,99 Eingestellte Einheit (Eingangssignal **0.5÷1500 Hz)**
Messgenauigkeit: 1% Anschlag

Stromausgänge: Messbereich **0/4÷20 mA** **1** (max. Belastung 500 Ohm) [Messgenauigkeit ±2% Anschlag]

Eingang: 15÷30 Vac/dc

Stromversorgung: 90÷265 Vac 50/60 Hz
Stromaufnahme: max. 5 VA
Sicherung: 500 mA (träge)

Display: LCD 2 Zeilen 16 Zeichen
Tastatur: 4 Tasten

Mechanische Abmessungen:

- DIN-Rail Schalttafel;
- 48 x 96 x 98 mm Schalttafel,
- 96 x 96 Schalttafel,
- 144 x 144 Wand.

Schutzgrad:

- Din-Rail = IP40
- 48x96 = IP40
- 96x96 = IP65 Fronttafel
- 144x144 = IP65 gesamte Box

1.4 WARNHINWEISE

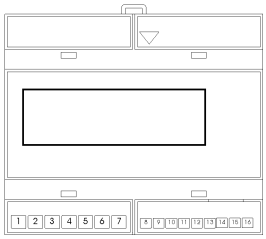
- Lesen Sie dieses Handbuch aufmerksam durch, bevor Sie das System installieren und in Betrieb nehmen.
- Das Dosieraggregat muss so an das Versorgungsnetz angeschlossen werden, dass eine allpolige Trennvorrichtung mit mindestens 3 mm Kontaktabstand vorgeschaltet ist.
- Überprüfen Sie, welches Gerätemodell Sie erworben haben, um sich hinsichtlich Installation, Einstellungen und Programmierung auf die entsprechenden Bereiche dieses Handbuchs beziehen zu können.
- Für alle Anschlüsse beziehen Sie sich bitte auf die Zeichnung der Steuerschaltung im vorliegenden Handbuch.
- ACHTUNG: Halten Sie stets die erforderlichen Sicherheitsverfahren ein und benutzen Sie einen zweckmäßigen Augen- und Gesichtsschutz sowie Schutzkleidung.
- ACHTUNG: Unterbrechen Sie während der Installation oder Wartung dieses Gerätes immer die Stromversorgung.
- ➲ Das Unternehmen arbeitet stets an der Verbesserung aller Produkte und behält sich das Recht vor, jederzeit und ohne vorherige Ankündigung Änderungen vorzunehmen.
- ➲ Die Nichtbeachtung der in diesen Handbuch enthaltenen Normen kann zu Sach- und Personenschäden führen, den Betrieb beeinträchtigen oder das Gerät beschädigen.

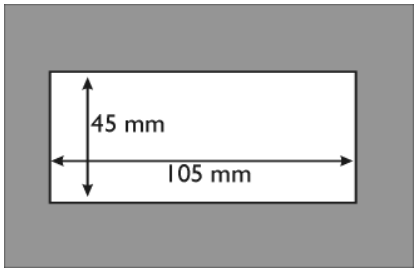
1.5 NOTWENDIGES INSTALLATIONSMATERIAL

Halten Sie das nötige Werkzeug für die Befestigung des Geräts bereit.

2 Mechanische und elektrische INSTALLATION

2.1.___DIN-Rail Ausführung (6 DIN EN50022 Module)





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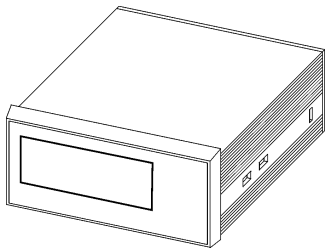

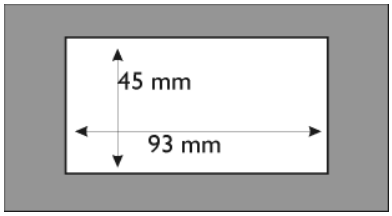

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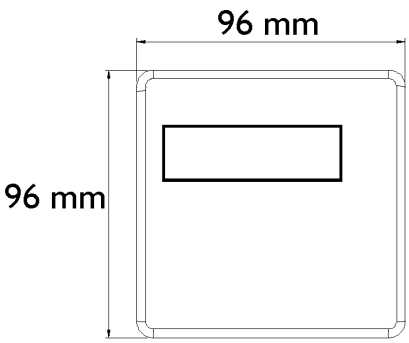

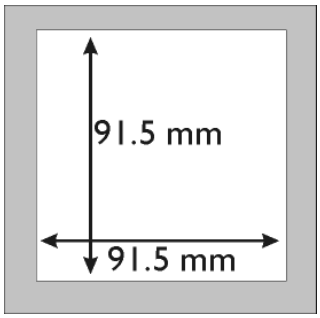

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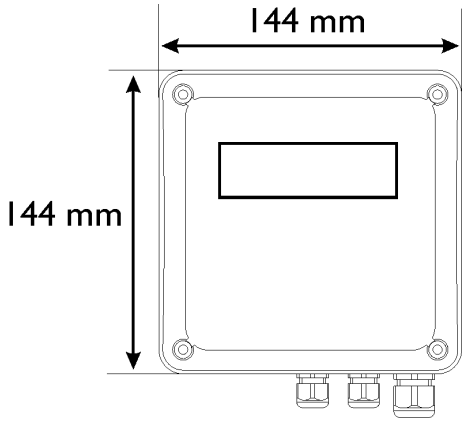
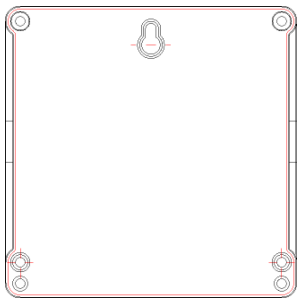
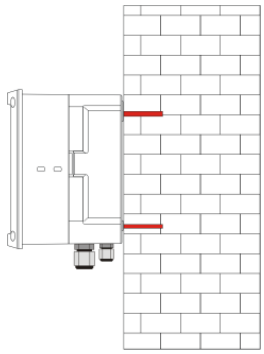


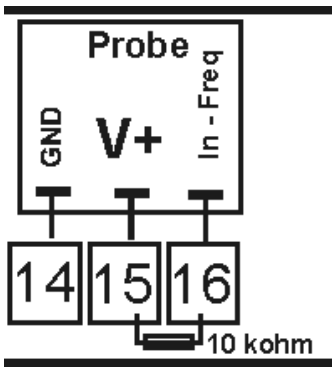




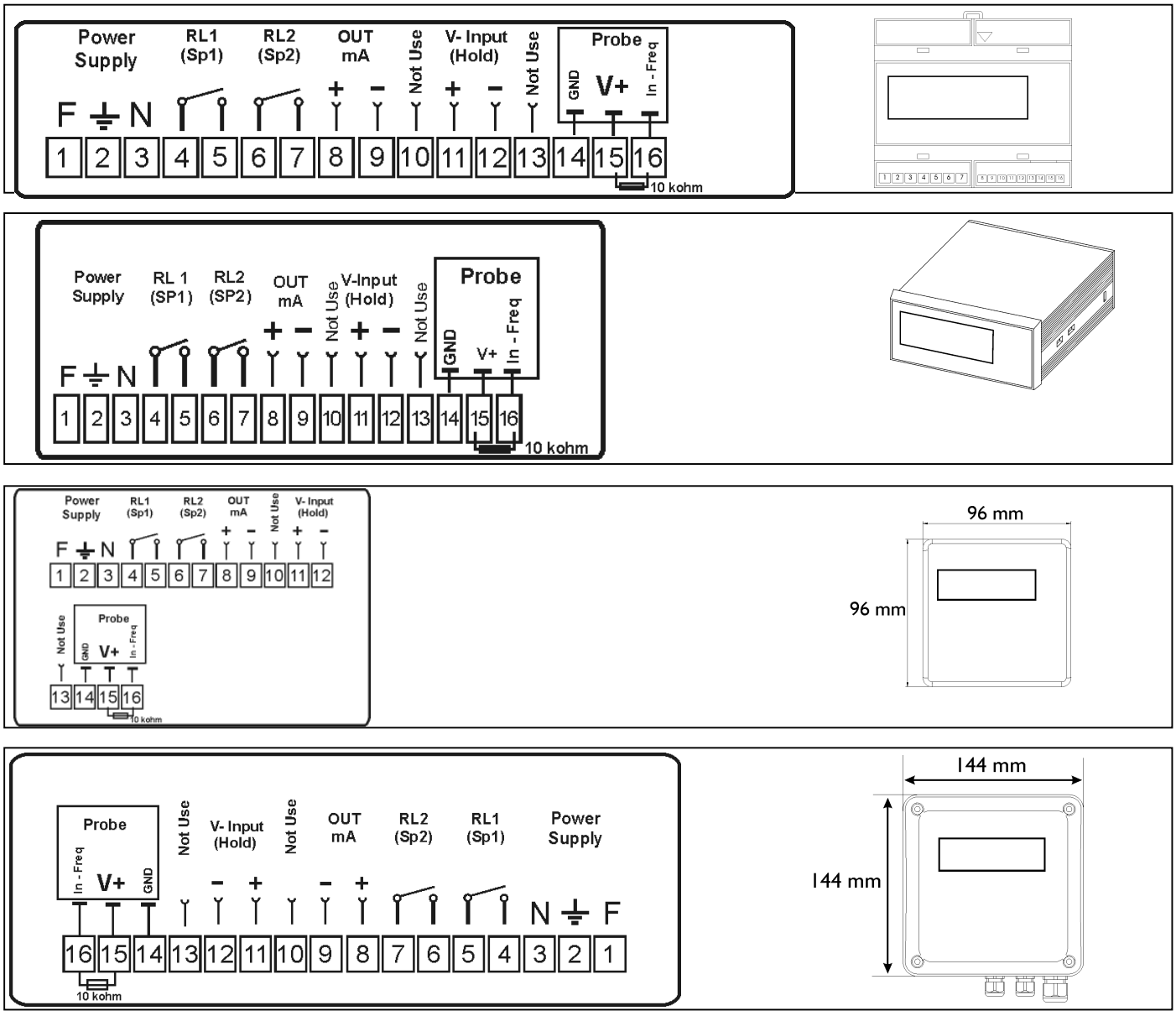
2.5 Beschreibung der elektrischen Anschlüsse

2.5.1__Tabelle der elektrischen Anschlüsse

Klemme	Beschreibung
1	Phase (Versorgung 230 Vac)
2	Erde
3	Nullleiter (Versorgung 230 Vac)
4-5	Relais SetPoint 1
6-7	Relais SetPoint 2
8-9	Stromausgang 0/4÷20 mA
10	Nicht verwendet
11-12	Vac/dc Eingang 15÷30 Vac/dc **Hold**
13	Nicht verwendet
14-15-16	Durchflusssensor



2.5.2__Schild der elektrischen Anschlüsse für alle Modelle

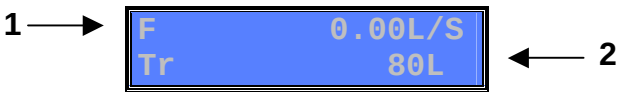


2.6 HYDRAULISCHE ANSCHLÜSSE

Keine

3.0___EINSTELLUNGEN UND FUNKTIONSWEISE

3.1___Geräteanzeige



Bereich 1 = Anzeige der Durchflussmessung
Bereich 2 = Anzeige mit rückstellbarem (Tp), nicht rückstellbarem Summenzähler (Tr) oder Batch-Summenzähler (Tb) wählbar mit der Taste **Mode**.

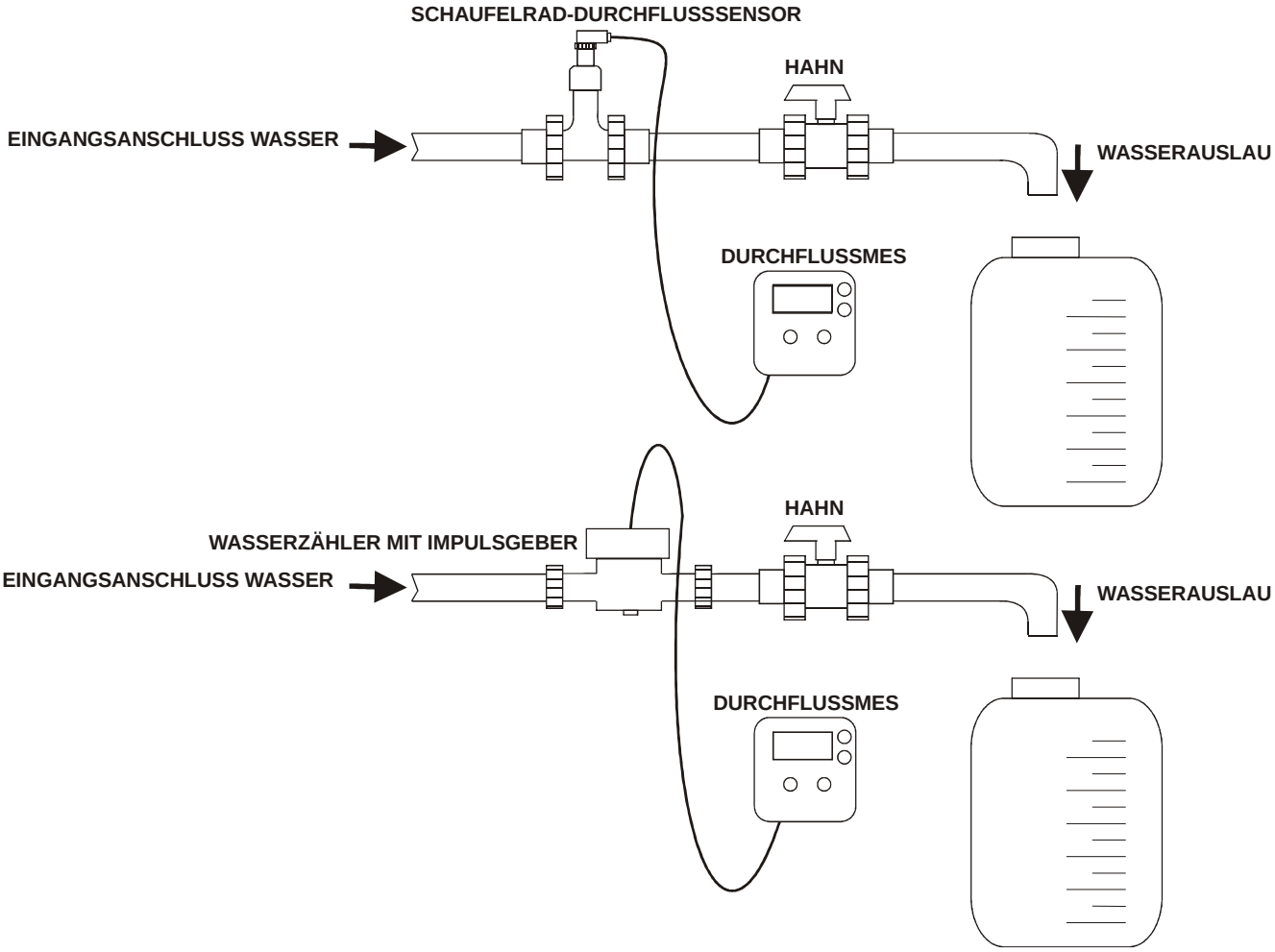
3.2__Gerätetastatur

Esc/Mode = Taste mit Doppelfunktion **Esc =** Sofortiges Verlassen des **Menüs Mode=** Schnelleinstellungsmenü
Enter/Cal = Taste mit Doppelfunktion **Enter =** Bestätigen einer Funktion **Cal =** Sofortzugriff auf die Kalibrierung
Auf = Erhöhungstaste oder wenn während dem normalen Betrieb auf dem Display der **Tr** (rückstellbarer Summenzähler) oder der **Tb** (Batch-Summenzähler) angezeigt wird, kann man diese durch 3 Sekunden langes Drücken dieser Taste rückstellen.
Ab = Verringerungstaste

Wichtig:

A) Den Senor im Menü **Advanced➔Kontroll Panel➔Fluss Sensor= K Faktor oder Wasserzähler**
B) Stellen Sie den Parameter entsprechend der Sensor-Art ein:
B.1) Durchflusssensor, setzen Sie den **K Faktor** ein.
B.2) Wasseruhr mit Impulsgeber, einsetzten **Puls/Liter**

Kalibrierfunktion Sensor

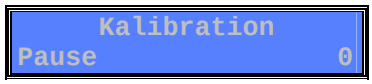


Um das Kalibrierverfahren des Sensors zu starten, 3 Sekunden lang die Taste ***Cal*** drücken.
Zum Stoppen des Kalibrierverfahrens kann jederzeit die Taste ***Esc*** gedrückt werden.
Das Gerät zeigt folgendes an:

Bevor das Verfahren gestartet wird, sicherstellen:

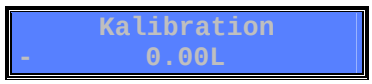
- dass sich in der betroffenen Leitung des Sensors keine Luftblasen befinden
- dass der mit der Messskala versehene Tank leer ist
- dass der Hahn geschlossen ist

Cal drücken. Das Gerät zeigt folgendes an:

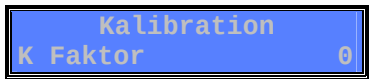


Hinweis: Die Zahl unten links zeigt die Anzahl der vom Sensor erzeugten Impulse an.

Den Hahn öffnen und den mit der Messskala versehenen Tank bis zur für die Kalibrierung erforderlichen Höhe mit Wasser füllen. Dann den Hahn wieder schließen. Nachdem überprüft worden ist, dass die Anzahl der Impulse komplett gestoppt hat, ***Cal*** drücken. (Wird die Taste ***Cal*** gedrückt, wenn die Anzahl der Impulse bei Null liegt, wird eine Fehlermeldung angezeigt.)



Die am Tank abgelesene Anzahl der Liter einfüllen und zur Bestätigung ***Cal*** drücken. Das Gerät zeigt den berechneten **K-Faktor** an.



Cal drücken, um den neuen **K-Faktor** zu bestätigen.

Funktion Mode (Schnellmenü) ***(Die Taste Mode 1 Sekunde lang drücken und über die Tasten Auf und Ab auswählen)***

- Drücken, um zwischen nicht rückstellbarem (Tp), rückstellbarem (Tr) oder Batch-Summenzähler (Tb) auszuwählen (der Tb wird nur angezeigt, wenn mindestens eines der beiden Relais auf die Funktion Batch gestellt ist).

Funktion Eingabemenü ***(Die Tasten Enter und Esc 5 Sekunden lang drücken)***

- Sprache (Die Menüanzeigesprache eingeben)
  - Zur Verfügung stehen Englisch (UK), Französisch (FR), Spanisch (ES), Deutsch (DE), Italienisch (IT)
- Output mA (Den Stromausgang einstellen)
- Erweitert (Technisches Verwaltungsmenü)

Funktion zum Wiederherstellen der Werksparameter

- Das Gerät ausschalten
- Zusammen die Tasten **Auf** und **Ab** drücken und das Gerät einschalten
- Das Gerät zeigt init._Default an. Über die Tasten Auf bzw. Ab Yes auswählen und Enter drücken
- Das Gerät stellt alle Werksparameter wieder her

Hinweis: Zum Verlassen der Menüs **Esc** drücken

3.3__ALLGEMEINE EINSTELLUNGEN

Gleichzeitiges Drücken der Tasten Enter und Esc zur Programmierung der Werte:

Programmiermenü			
Menüpunkte		**Werksparameter**	Grenzen
Sprache			
Sprachauswahl		UK	IT; FR; DE; ES
Ausgangsrelais 1 = Set Point			
Set Point-Wert		100 L/S	0÷99999,99
Dosierarten		Hoch	Hoch/Niedrig
Hysterese		0.0 L/S	0÷99999,99
Ausgangsrelais 1 =Batch			
Set Point Batch		1 L	1÷9999999
Batch-Typ		Niedrig	Hoch/Niedrig
Ausgangsrelais 2 = Set Point			
Set Point-Wert		100 L/S	0÷99999,99
Dosierarten		Hoch	Hoch/Niedrig
Hysterese		0.0 L/S	0÷99999,99
Ausgangsrelais 2 =Batch			
Set Point Batch		1 L	1÷9999999
Batch-Typ		Niedrig	Hoch/Niedrig
Output mA			
Messbereich 0/4÷20 mA		0÷20 mA	0÷20 mA o 4÷20 mA
Wert für 0 / 4 mA		0	0÷99999,99
Wert für 20 mA		99999,99	0÷99999,99
Erweitert			
K-Faktor *		1.00	0,01÷99999,99
Wasserzähler *		1I/1L (Puls/ Liter)	I=0÷999 L=0÷999
Durchflusseinheit		L/S	L/S ; L/M; L/H; m³/H;GPM
Gesamteinheit		L	L; m³; GAL
Ausgangsrelais Typ 1		OFF	OFF, Set Point oder Batch
Ausgangsrelais Typ 2		OFF	OFF, Set Point oder Batch
Hold-Eingang (kann unabhängig auf RL1 oder 2 aktiviert werden)		RL1: ON – RL2: ON	RL1: OFF – RL2: OFF RL1: ON – RL2: OFF RL1: OFF – RL2: ON RL1: ON – RL2: ON
Kalibrierung aktiviert oder deaktiviert		ON	ON oder OFF
Statistiken			
	Wert des nicht rückstellbaren Summenzählers	0	0÷999999999
	Wert des rückstellbaren Summenzählers	0	0÷999999999
	Anzahl Signale Hold-Eingang	0	0÷65535
	Reset Statistiken	Alle mit Ausnahme von Total. Ständige	
Steuertafel			
	Kontakt Relais 1	Normalerweise offen	N.O. oder N.C.
	Kontakt Relais 2	Normalerweise offen	N.O. oder N.C.
	Fluss Sensor	K-Faktor	K-Faktor oder Wasserzähler
	Stromausgang, manueller Wert	Stromgenerator 0÷20 mA	
	Eingangssignal Sonde	Zeigt das Signal in Hz an	
	Hold-Signal vorhanden	Signal vorhanden ON	ON; OFF
	Wartung	01/01/10 (Letzte Wartung oder registrieren Sie sich für einen Tag)	
	Revision Firmware	X.X	
Reset des Geräts		Stellt die Werksparameter wieder her	
Passwort		0000	0000÷9999

* Wenn der Parameter **Erweitert** => ***Steuertafel*** => **Fluss Sensor** = **K-Faktor**, wird im Menü **Erweitert** der Menüpunkt **K-Faktor** angezeigt.

Wird **Fluss Sensor** = **Wasserzähler** eingestellt, wird im Menü **Erweitert** der Menüpunkt Wasserzähler angezeigt.

Die Auswahl des Durchflusssensors hängt vom Typ des Sensors ab, der verwendet wird.

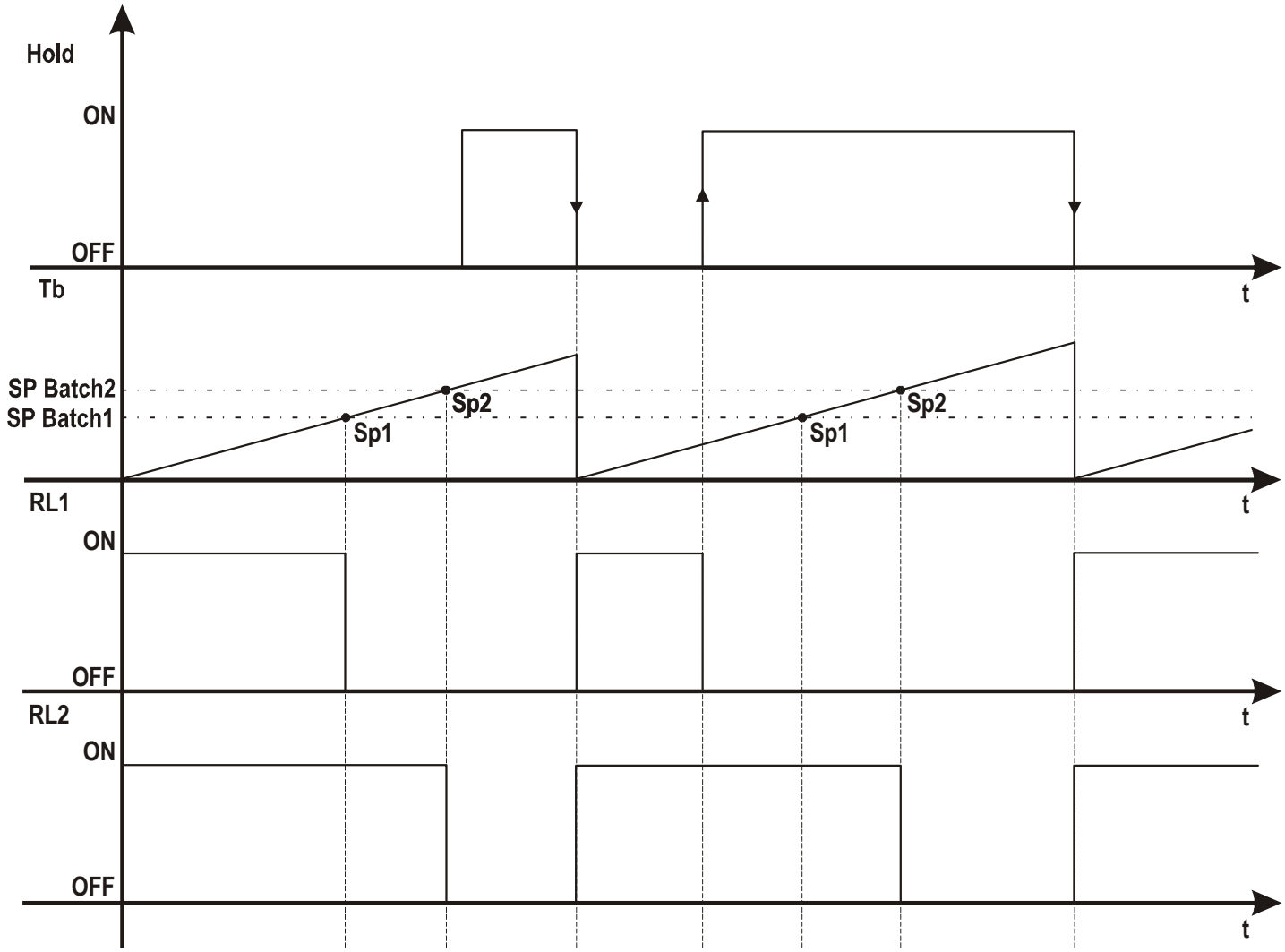
Wenn der Sensor innerhalb dieser Menüs (**K-Faktor** und **Wasserzähler**) kalibriert wird, erscheint (unten rechts) der Buchstabe „**C**", der anzeigt, dass das Gerät den auf der Grundlage der Kalibrierung neu berechneten Parameter verwenden wird.

Hold-Signal

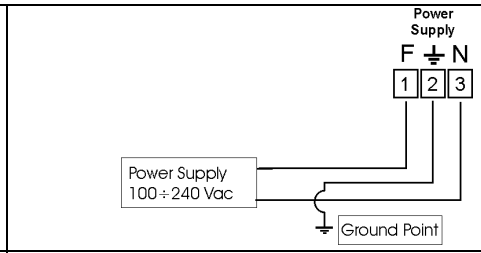
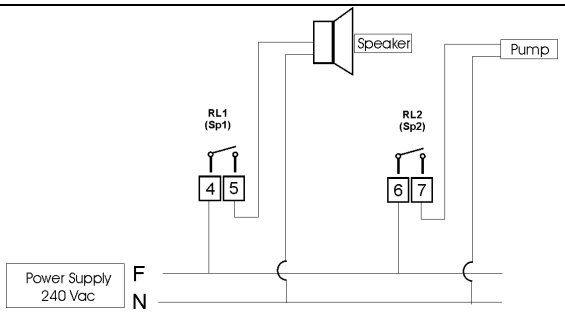
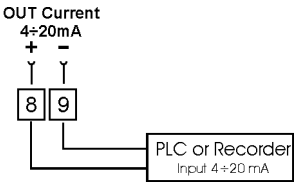
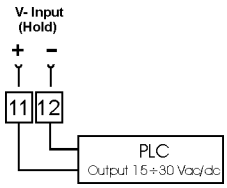
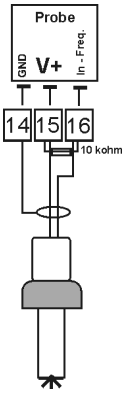
Hold wird nur aktiviert, wenn das Signal mindestens 4 Sekunden lang andauert.
Auf der Abstiegsseite des Signals wird der Tb rückgestellt, wenn er auf mindestens einem Relais aktiviert ist.

Beispiel:

Kontakt Relais 1= N.O. (Normalerweise offen) Relais 1 = Batch Batch-Typ RL1= Niedrig
Kontakt Relais 2= N.O. (Normalerweise offen) Relais 2 = Batch Batch-Typ RL2= Niedrig
Hold= RL1:ON – RL2:OFF



Elektrische Anschlüsse

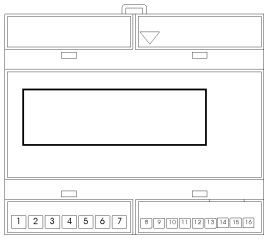
Spannungsversorgung	
Relaisanschluss für Lautsprecher und Dosierpumpe	
Stromausgang für PLC oder Rekorder	
Spannungseingang von vom Steuergerät überwachtem PLC	
Sondenanschluss maximale Länge 300 Meter	

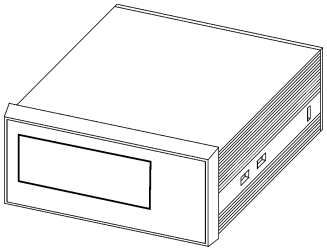
4 LEITFADEN ZUR PROBLEMLÖSUNG

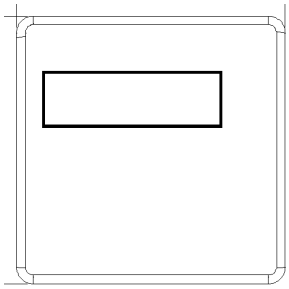
- **Das Gerät schaltet sich nicht ein…**
  - Überprüfen, ob die Versorgungskabel richtig angeschlossen wurden
  - Überprüfen, ob die Netzversorgung vorhanden ist
- **Der mA-Ausgang verändert sich nicht…**
  - Den Anschluss der Kabel überprüfen
  - Über das Hauptmenü “Manuelle Steuerung” überprüfen, ob der Ausgang die gewünschte Wirkung erzeugt
  - Die elektrischen Eigenschaften des Geräts überprüfen (max. Belastung 500 Ohm)
- **Die Spannung am Port Vdc In blockiert das Gerät nicht…**
  - Die elektrischen Anschlüsse überprüfen
  - Überprüfen, ob der Generator funktioniert

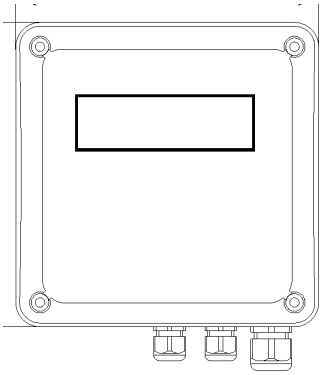
Hinweis: Bei fortdauernder Störung kontaktieren Sie den Lieferanten.

Instrumento para medir el flujo









ÍNDICE

1	Antes de empezar	pág. 2
2	Instalación	pág. 3
3	Configuraciones y funcionamiento	pág. 5
4	Guía para la resolución de problemas	pág. 9

1 ANTES DE EMPEZAR

1.1 BIENVENIDO

➲ Se ruega leer atentamente el presente manual, poniendo especial atención a las advertencias y a las precauciones. Se tienen que respetar siempre los procedimientos de seguridad necesarios, utilizando las protecciones adecuadas para el rostro y los ojos, y llevando ropa de protección.

1.2 CONTENIDO DEL EMBALAJE

- Instrumento de medición
- Soportes de fijación
- Manual de instrucciones

1.3 CARACTERÍSTICAS TÉCNICAS

Campo de medida del flujo: 0÷99999,99 **Unidad programada** (señal entrada 0,5÷1500 Hz)
Precisión: 1% Fondo de escala

Salida en corriente: Campo de medida 0/4÷20 mA 1 (carga máx. 500 ohm) [Precisión ±2% fondo escala]

Entrada: 15÷30 Vca/cc

Alimentación: 90÷265 Vca 50/60 Hz
Absorción: 5VA Máx
Fusible: 500 mA (retardado)

Display: LCD 2 líneas 16 caracteres
Teclado: Número 4 teclas

Dimensiones mecánicas:

- DIN Rail panel;
- 48 x 96 x 98 mm panel,
- 96 x 96 panel,
- 144 x 144 pared.

Grado de protección:

- Din-Rail = IP40
- 48x96 = IP40
- 96x96 = IP65 panel frontal
- 144x144 = IP65 caja completa

1.4 ADVERTENCIAS

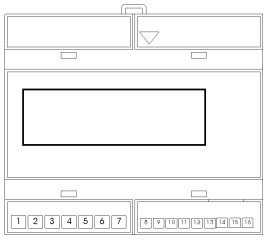
Lea atentamente este manual antes de realizar la instalación y puesta en marcha del sistema.
El grupo de dosificación se debe conectar a la tensión de alimentación por medio de un dispositivo de interrupción omnipolar con una distancia máxima de abertura igual a 3 mm.
Controle el modelo del aparato que ha adquirido para consultar las referencias de instalación, ajuste y programación presentes en este manual.
Para todas las conexiones, consulte el plano del circuito de control que se incluye en el manual.
ATENCIÓN: Siga siempre los procedimientos de seguridad necesarios, incluyendo el uso de protecciones adecuadas para los ojos, la cara, las manos y la ropa.
ATENCIÓN: Durante la instalación o el mantenimiento del equipo es preciso desconectar siempre la alimentación.
➲ **La empresa trabaja constantemente para perfeccionar todos sus productos, por lo que se reserva la facultad de realizar modificaciones en cualquier momento y sin previo aviso.**
➲ **La inobservancia de las normas contenidas en este manual puede causar daños a personas o cosas y estropear el equipo o alterar su funcionamiento.**

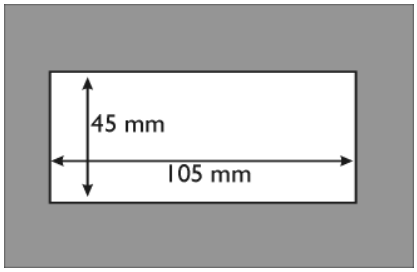
1.5 MATERIAL NECESARIO PARA LA INSTALACIÓN

Procúrese las herramientas necesarias para fijar el instrumento.

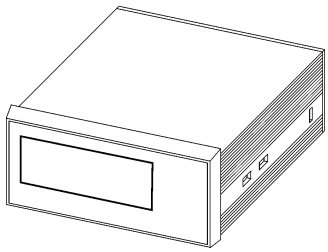
2 INSTALACIÓN Mecánica y Eléctrica

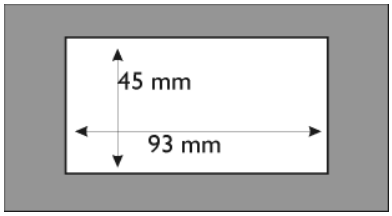
2.1.___Versión Din Rail (6 módulos Din EN50022)



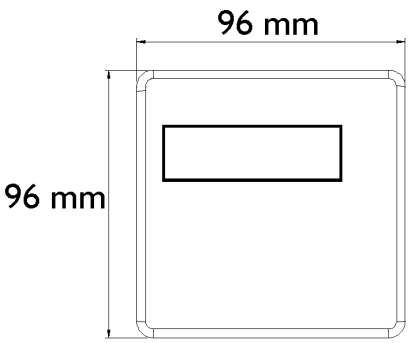


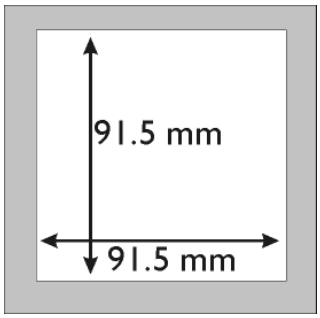
2.2___Versión 48 x 96 x 100



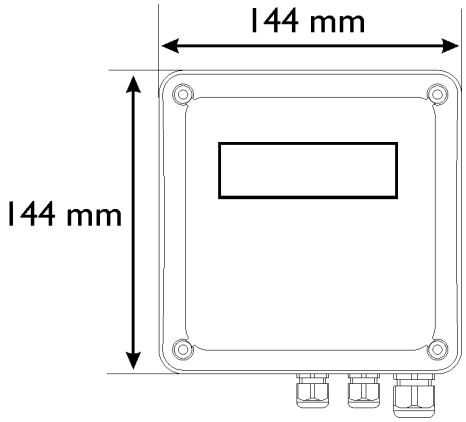


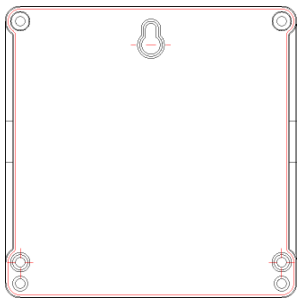
2.3___Versión 96 x 96 x 92

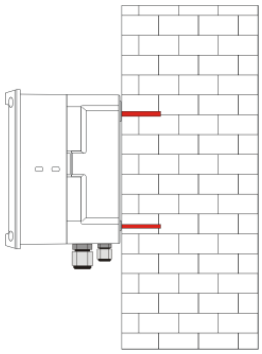




2.4___Versión 144x144x90



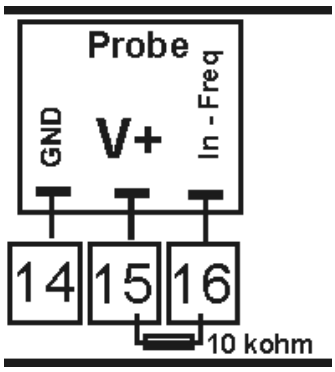




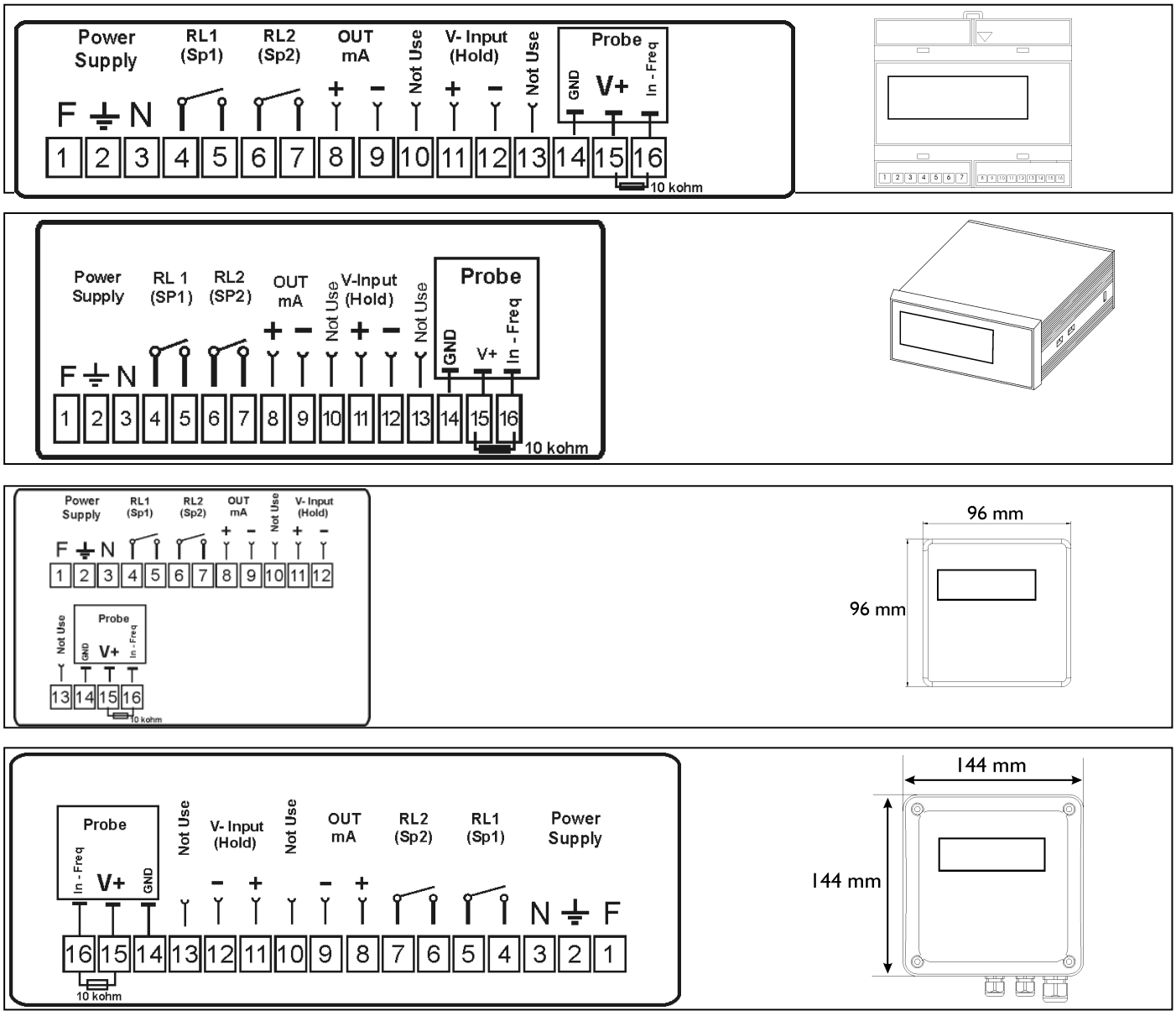
2.5 Descripción conexiones eléctricas

2.5.1__Tabla de conexiones eléctricas

Borne	Descripción
1	Fase (Alim. 230 Vca)
2	Tierra
3	Neutro (Alim. 230 Vca)
4-5	Relé punto de ajuste 1
6-7	Relé punto de ajuste 2
8-9	Salida en corriente 0/4÷20 mA
10	No utilizado
11-12	Entrada Vac/cc 15÷30 Vac/cc Hold
13	No utilizado
14-15-16	Sensor de flujo



2.5.2__Etiqueta conexiones eléctricas para cada modelo

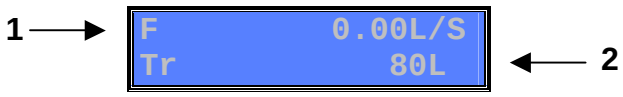


2.6 CONEXIONES HIDRÁULICAS

Ninguna

3.0___PROGRAMACIONES Y FUNCIONAMIENTO

3.1___Visualización instrumento



Área 1 = Visualización medida flujo.
Área 2 = Visualización totalizador permanente (Tp) , reseteable (Tr) o batch (Tb) del flujo, seleccionables pusando **Mode**.

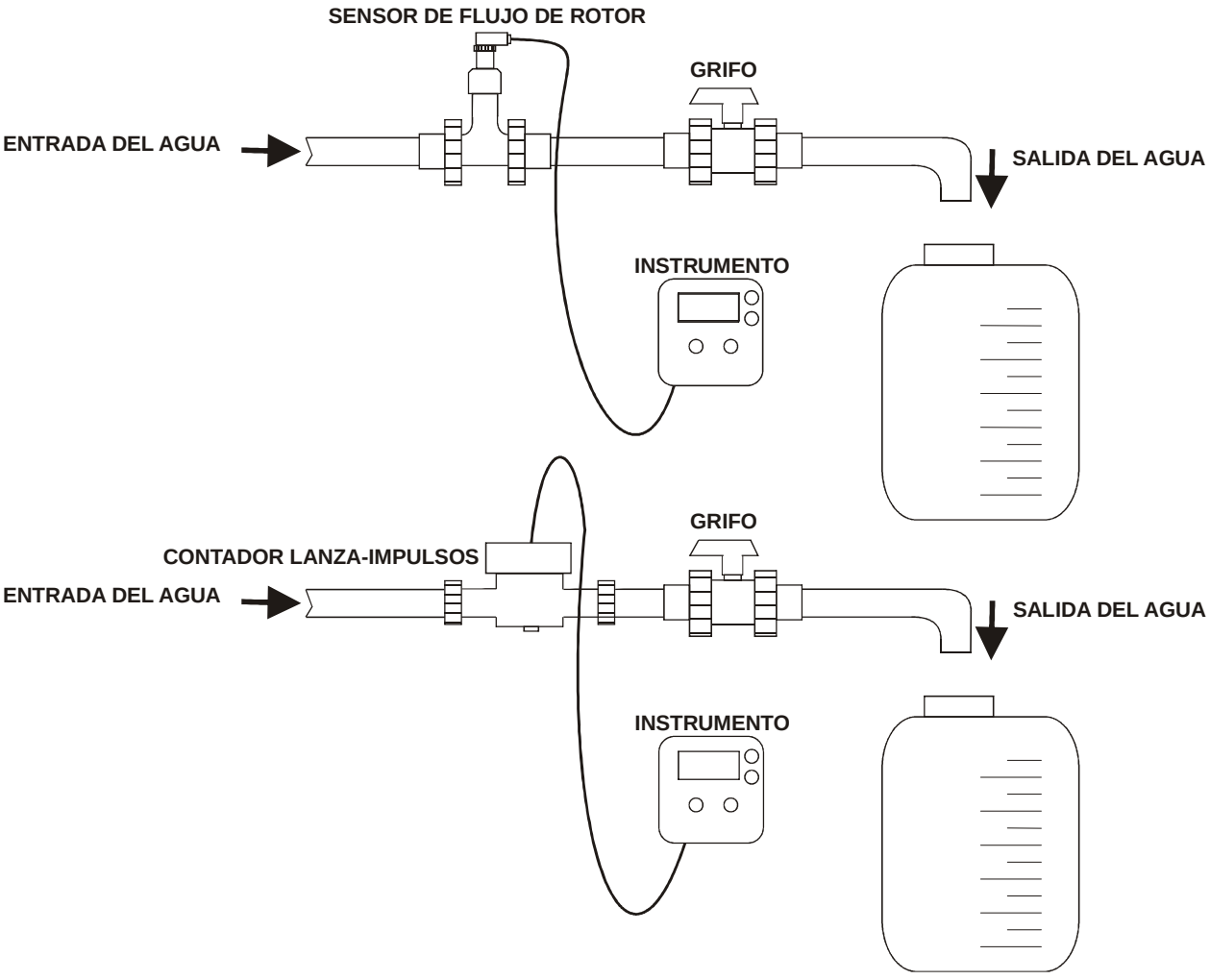
3.2__Teclado instrumento

Sal/Modalidad = Tecla de doble función **Esc =** Salida inmediata del menú **Mode =** menú regulaciones rápidas
Enter/ Cal = Tecla de doble función **Enter =** Confirma función **Cal =** Acceso inmediato calibración
Arriba = Tecla incremento o durante el funcionamiento normal, visualizando en el display el **Tr** (Totalizador reseteable) o el **Tb** (Totalizador batch) es posible resetearlos manteniéndola pulsada durante 3 segundos.
Abajo = Tecla disminución

Importante:

A) Seleccionar el sensor en el menú **Avanzado=>Panel de Control=> Sensor de Flujo= Factor K o Contador de Agua**
B) Ajustar el parámetro según el tipo de sensor:
- **B.1)** Sensor de flujo de rotor, insertar el **Factor K**
- **B.2)** Contador de agua emisor de impulsos, insertar **impulsos/litro**

Función Calibración Sensor



Para activar el procedimiento de calibración del sensor, pulse la tecla ***Cal*** durante 3 segundos.
Si se desea detener el procedimiento de calibración, pulse la tecla ***Esc*** en cualquier momento.
El instrumento muestra el mensaje:

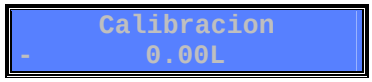
Antes de poner en marcha el procedimiento, asegúrese de que:

- en el conducto afectado del sensor no haya burbujas de aire;
- el depósito graduado esté vacío;
- el grifo esté cerrado;

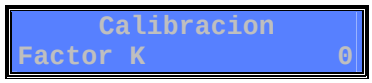
Al pulsar ***Cal*** el instrumento muestra en mensaje:

Nota: el número de abajo a la izquierda indica el número de impulsos generados por el sensor.

Abra el grifo, rellene el depósito graduado hasta la cantidad de agua deseada para efectuar la calibración y cierre el grifo. Después de comprobar que el número de impulsos se ha detenido completamente, pulse ***Cal***. (Si se presiona la tecla ***Cal*** con un número de impulsos igual a cero, aparece señalado el error.)



Introduzca el número de litros que se lee en el depósito y pulse ***Cal*** para confirmar. El instrumento muestra el **Factor K** calculado.



Pulse ***Cal*** para confirmar el nuevo **Factor K**.

Función Mode (menú rápido) *(Pulsar la tecla Mode durante 1 segundo, seleccionar con la tecla Arriba y Abajo)*

- Pulse para seleccionar el totalizador Permanente (Tp), Reseteable (Tr) o Batch (El Tb aparece visualizado solo si por lo menos uno de los dos relés está programado en la función batch).

Función menú Configuración de valores *(Pulsar las teclas Intro y Sal durante 5 segundos)*

- **Idioma** (Programar el idioma en el que se visualizarán los menús)
  - Los idiomas disponibles son: inglés (UK), francés (FR), español (ES), alemán (DE) e italiano (IT)
- **Output mA (Programar salida en corriente)**
- **Avanzado (menú de gestión técnica)**

Función de restablecimiento parámetros de fábrica

- Apagar el instrumento
- Pulsar las teclas Arriba y Abajo juntas y poner en marcha el instrumento
- El instrumento muestra el mensaje init._Default, seleccionar Yes con las teclas Arriba o Abajo y pulsar Enter
- El instrumento vuelve a cargar todos los parámetros de fábrica

Nota: Para salir de los menús, pulsar ***Esc.***

3.3__CONFIGURACIONES GENERALES

Presione simultáneamente las teclas Intro y Sal en el menú de programación de valores:

Menu Programmazione			
Elementos de Menù		**Parámetros de fábrica**	**Límites**
Idioma			
Programación del idioma		UK	IT; FR; DE; ES
Relé 1 de salida = Punto de ajuste (SP)			
Valor punto de ajuste		100 L/S	0÷99999,99
Tipo de dosificaciones		Alta	Alta o Baja
Histéresis		0.0 L/S	0÷99999,99
Relé 1 de salida = Batch			
Punto de ajuste Batch		1 L	1÷9999999
Tipo de Batch		Baja	Alta o Baja
Relé 2 de salida = Punto de ajuste (SP)			
Valor punto de ajuste		100 L/S	0÷99999,99
Tipo de dosificaciones		Alta	Alta o Baja
Histéresis		0.0 L/S	0÷99999,99
Relé 2 de salida = Batch			
Punto de ajuste Batch		1 L	1÷9999999
Tipo de Batch		Baja	Alta o Baja
Output mA			
Intervalo 0/4÷20 mA		0÷20 mA	0÷20 mA o 4÷20 mA
Valor para 0 / 4 mA		0	0÷99999,99
Valor para 20 mA		99999,99	0÷99999,99
Avanzado			
Factor K *		1.00	0,01÷99999,99
Contador Agua *****		1l/1L (Pulso/ Litros)	I=0÷999 L=0÷999
Unidad flujo		L/S	L/S ; L/M; L/H; m³/H;GPM
Unidad total		L	L; m³; GAL
Relé de salida tipo 1		OFF	OFF, Punto de ajuste (SP) o Batch
Relé de salida tipo 2		OFF	OFF, Punto de ajuste (SP) o Batch
Entrada Hold (Puede activarse independientemente en el RL1 o 2)		RL1: ON – RL2: ON	RL1: OFF – RL2: OFF RL1: ON – RL2: OFF RL1: OFF – RL2: ON RL1: ON – RL2: ON
Calibración habilitada o inhabilitada		ON	ON o OFF
Estadísticas			
	Valor totalizador permanente	0	0÷999999999
	Valor totalizador reseteable	0	0÷999999999
	Número de señales de entrada Hold	0	0÷65535
	Restablecimiento estadísticas	Pero todo Azzero total. Permanente	
Panel de control			
	Contacto relé 2	Normalmente abierto	N.O. o N.C.
	Contacto relé 2	Normalmente abierto	N.O. o N.C.
	Sensor Flujo	Factor K	Factor K o Contador Agua
	Salida en corriente valor manual	Generador de corriente 0÷20 mA	
	Señal sonda en entrada	Visualiza la señal en Hz	
	Señal Hold presente	Señal presente ON	ON; OFF
	Mantenimiento	01/01/10 (Última mantenimiento o regístrese para una fecha)	
	Revisión microcódigo	X.X	
Restablecimiento instrumento		Restablece los valores de fábrica	
Contraseña		0000	0000÷9999

* cuando el parámetro **Avanzado=>Panel de Control=> Sensor Flujo= Factor K**, en el menú **Avanzado** será visualizado **Factor K**.

Ajustando **Sensor Flujo= Contador Agua**, en el menú **Avanzado** será visualizado **Contador Agua**.

La selección del sensor de flujo depende del tipo de sensor que se está utilizando.

Si se calibra el sensor en estos menús (**Factor K** y **Contador de agua**), abajo a la derecha aparece el carácter "**C**", que indica que el instrumento utilizará el parámetro recalculado en función de la calibración.

Señal Hold

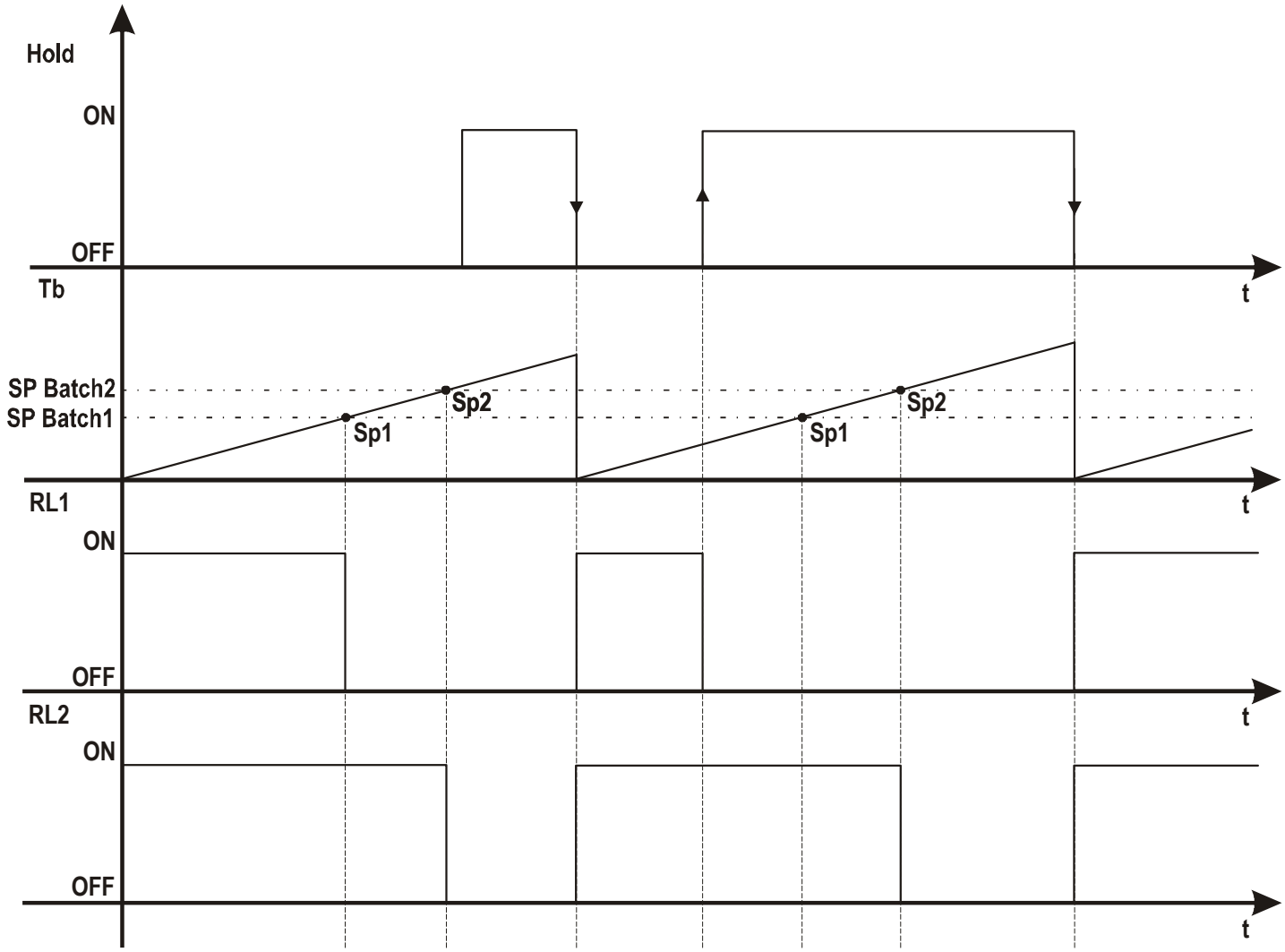
Hold se activa solo si la señal tiene una duración mayor o igual a 4 segundos.
En el frente de descenso de la señal se resetea el Tb si está activo por lo menos en un relé.

Ejemplo:

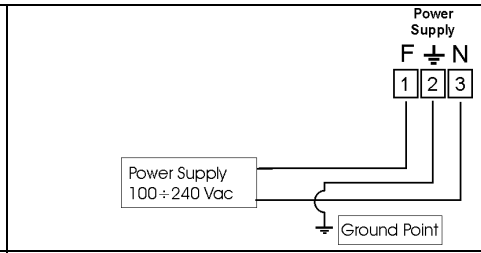
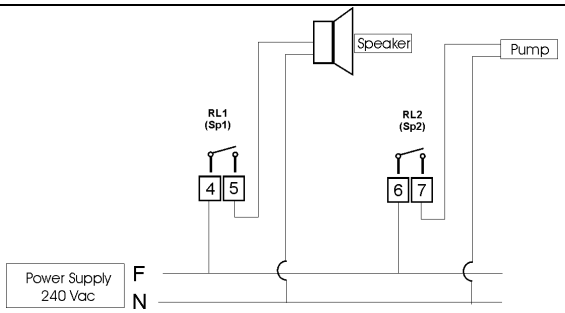
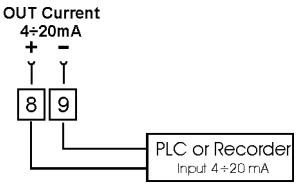
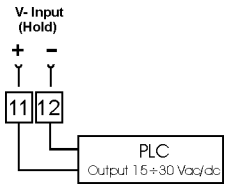
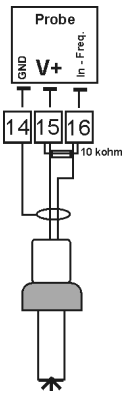
Contacto relè 1= N.O. (Normalmente abierto)
Contacto relè 2= N.O. (Normalmente abierto)
Hold= RL1:ON – RL2:OFF

Relè 1 = Batch
Relè 2 = Batch

Tipo de Batch RL1= Basso
Tipo de Batch RL2= Basso



Conexiones eléctricas

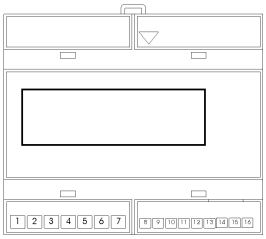
Alimentación	
Conexión Relé para altavoz y bomba dosificadora	
Salida en corriente para PLC o Record	
Entrada in tensión de PLC visionado por el instrumento de control	
Conexión sonda longitud máxima 300 metros	

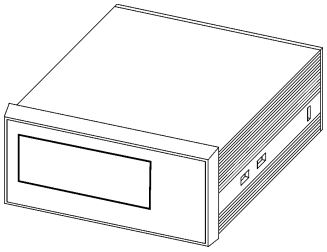
4 GUÍA PARA LA RESOLUCIÓN DE PROBLEMAS

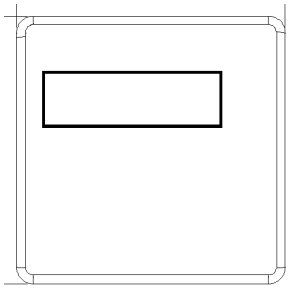
- **No se enciende…**
  - Comprobar si se han conectado correctamente los cables de alimentación
  - Comprobar si está presente la alimentación de red
- **La salida mA no varía…**
  - Controlar la conexión de los cables
  - Controlar, por medio del Menú Principal “Control Manual”, si la salida produce el efecto deseado.
  - Controlar las características eléctricas del dispositivo remoto (carga máx. 500 ohm)
- **La tensión en la puerta Vcc En no bloquea el instrumento…**
  - Controlar las conexiones eléctricas
  - Comprobar si el generador remoto está funcionando.

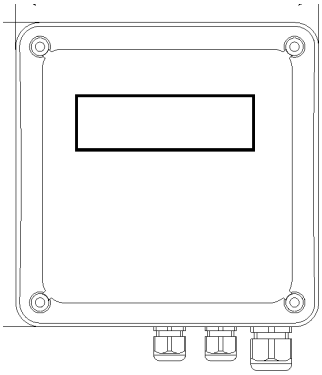
Nota: En caso de anomalía persistente, contactar al suministrador.

Instrument pour la mesure du débit









SOMMAIRE

1	Opérations préliminaires	page 2
2	Installation	page 3
3	Configurations et fonctionnement	page 5
4	Guide à la solution des problèmes	page 9

1 OPÉRATIONS PRÉLIMINAIRES

1.1 BIENVENUE

➲ Veillez lire attentivement ce manuel, en prêtant une attention particulière aux avertissements ainsi qu'aux précautions. Toujours respecter les procédures de sécurité nécessaires, y compris en ce qui concerne l'utilisation de protections adéquates pour le visage, les yeux et les vêtements.

1.2 LE CONTENU DE L'EMBALLAGE

- Instrument de mesure
- Supports de fixage
- Manuel d'instructions

1.3 CARACTÉRISTIQUES TECHNIQUES

Plage de mesure de débit : 0÷9.999.999
Unité programmée (signal entrée 0,5÷1500 Hz)
Précision : 1% à pleine échelle

Sorties en Courant : Plage de mesure 0/4÷20 mA
1 (charge max 500 ohm) [Précision ±2% Pleine Échelle]

Entrée : 15÷30 Vc.a./cc.

Alimentation : 90÷265 Vca 50/60 Hz
Absorption : 5 VA Max
Fusible : 500 mA (retardé)

Afficheur : LCD 2 lignes 16 caractères
Clavier : 4 touches

Dimensions mécaniques :

- DIN Rail tableau ;
- 48 x 96 x 98 mm tableau,
- 96 x 96 tableau,
- 144 x 144 mur.

Degré de protection :

- Din-Rail = IP40
- 48x96 = IP40
- 96x96 = IP65 façade
- 144x144 = IP65 tout le boîtier

1.4 AVERTISSEMENTS

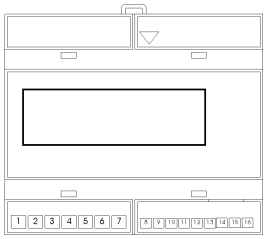
✋ Lire attentivement ce manuel avant de procéder à l'installation et à la mise en fonction du système.
✋ Le groupe de dosage doit être relié au courant d'alimentation par l'intermédiaire d'un dispositif d'interruption omnipolaire avec distance d'ouverture supérieure ou égale 3 mm.
✋Vérifier le modèle d'équipement acquis pour les références d'installation, la configuration et la programmation contenues dans ce manuel.
✋Pour tous les branchements, se référer à la carte topographique du circuit de contrôle reporté dans ce manuel.
☠ ATTENTION : Suivre toujours les procédures de sécurité nécessaires, y compris l'utilisation de protections appropriées pour le visage, les yeux, les mains et les vêtements.
☠ ATTENTION : Durant l'installation ou l'entretien de cet appareil, débrancher toujours l'alimentation.
➲ L'enterprise travaille constamment au perfectionnement de tous ses produits, en se réservant la faculté d'apporter des modifications à tout moment et sans aucun préavis.
➲ Le non-respect des normes contenues dans ce manuel, pourrait endommager les choses ou les personnes, compromettre le fonctionnement ou endommager l'appareil.

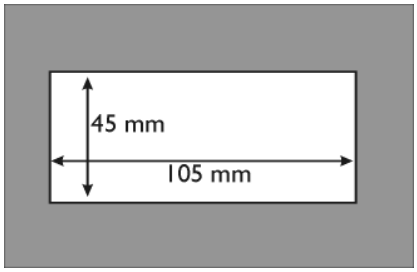
1.5 MATÉRIEL NÉCESSAIRE POUR L'INSTALLATION

Se munir d'un outillage pour fixer l'instrument.

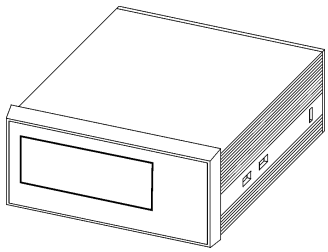
2 INSTALLATION Mécanique et Electrique

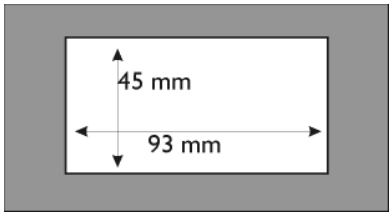
2.1.___Version Din Rail (6 modules Din EN50022)



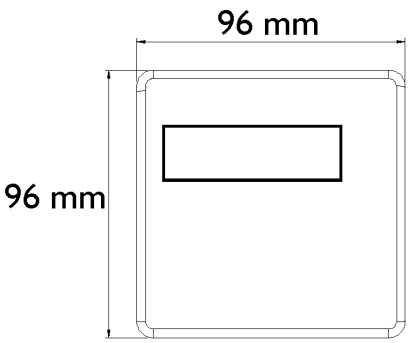


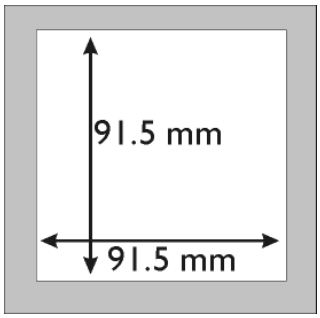
2.2___Version 48 x 96 x 100



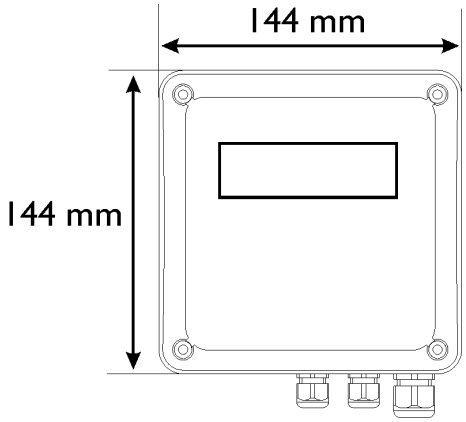


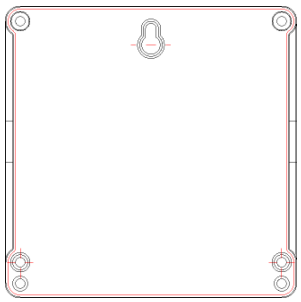
2.3___Version 96 x 96 x 92

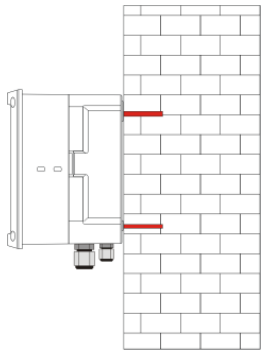




2.4__Version 144 x 144 x 90



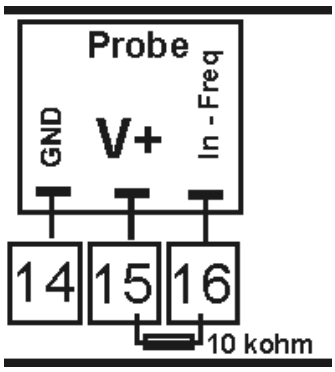




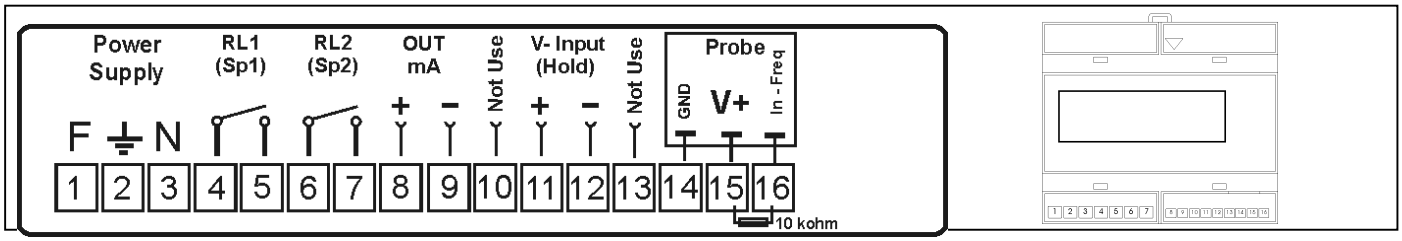
2.5 Description branchements électriques

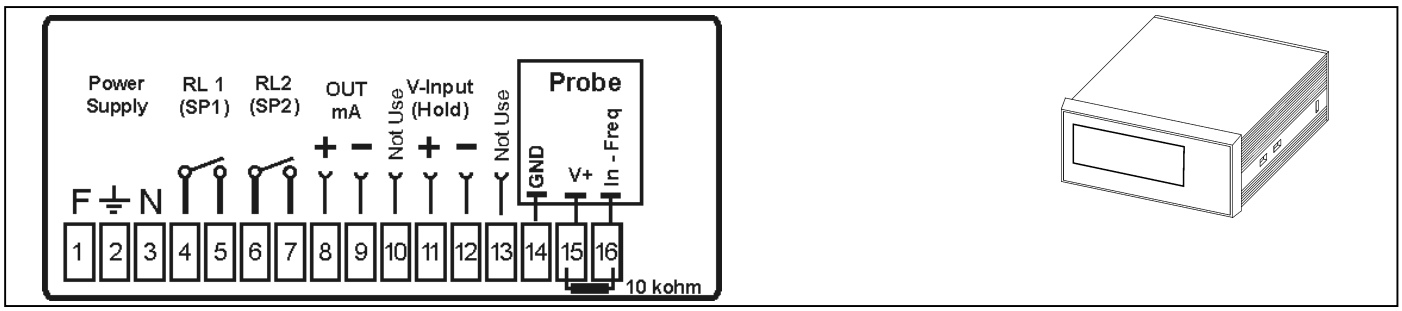
2.5.1__Tableau connexions électriques

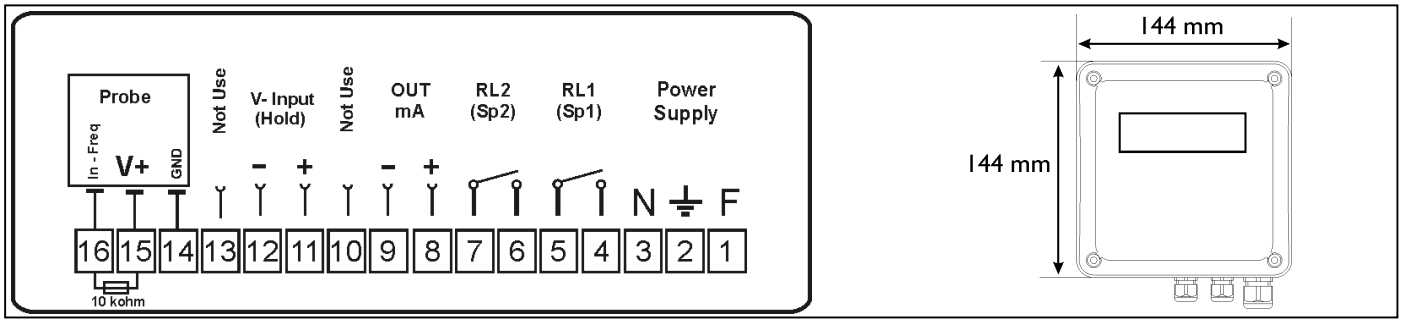
Borne	Description
1	Phase (Alim. 230 Vca)
2	Terre
3	Neutre (Alim. 230 Vca)
4-5	Relais Point de consigne 1
6-7	Relais Point de consigne 2
8-9	Sortie en courant 0/4÷20 mA
10	Non utilisé
11-12	Entrée Vac/dc 15÷30 Vac/dc **Hold**
13	Non utilisé
14-15-16	Capteur débit



2.5.2__Etiquette connexions électriques pour chaque modèle





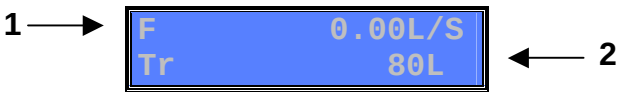


2.6 CONNEXIONS HYDRAULIQUES

Aucune

3.0___CONFIGURATIONS ET FONCTIONNEMENT

3.1__Affichage Instrument



Zone 1 = Affichage mesure débit.
Zone 2 = Affichage totalisateur du débit, permanent (Tp), avec remise à zéro (Tr) ou batch (Tb) sèlectionnables via le touche **Mode.**

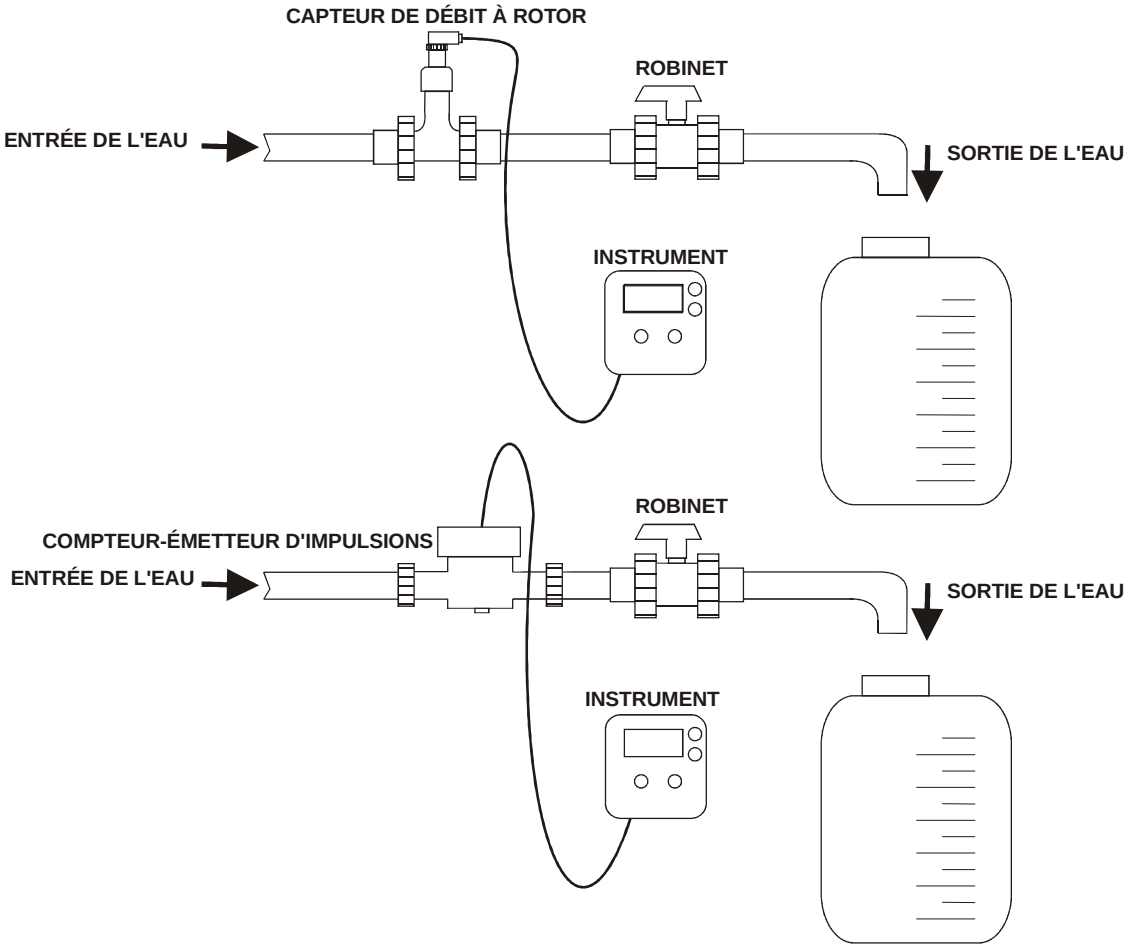
3.2__Clavier instrument

Esc/Mode = Touche avec double fonction **Esc =** Sortie immédiate du menu **Mode =** menu réglages rapides
Enter/ Cal = Touche avec double fonction **Enter =** Confirmation fonction **Cal =** Accès immédiat calibrage
Haut = Touche d'augmentation ou, pendant le fonctionnement normal, après les avoir visualisés sur l'afficheur, de réinitialisation du Tr (Totalisateur avec Remise à zéro) ou du Tb (Totalisateur batch) ; pour ce faire, maintenir la touche appuyée pendant 3 secondes.
Bas = Touche décrément

Important:

A) Sélectionner le capteur dans le menu **Avancé=>Panneau de commande=> Capteur de flux= Facteur K ou Compteur d'eau**
B) Régler le paramètre selon le type de capteur:
B.1) Capteur de flux à rotor, insérer le **Facteur K**
B.2) Capteur d'eau émetteur d'impulsions, insérer **impulsions/litre**

Fonction Étalonnage Capteur



Pour démarrer la procédure d'étalonnage du capteur, appuyer sur la touche ***Cal*** pendant 3 secondes.
Pour annuler la procédure d'étalonnage, appuyer à tout moment sur la touche ***Esc***.
L'instrument affiche :

Avant de démarrer la procédure, s'assurer que :

- il n'y a pas de bulles d'air dans la tuyauterie concernée par le capteur ;
- le bidon gradué est vide ;
- le robinet est fermé.

Appuyer sur ***Cal***, l'instrument affiche :

Remarque : le chiffre en bas sur la gauche indique le nombre d'impulsions générées par le capteur.

Ouvrir le robinet et remplir le bidon gradué de la quantité d'eau souhaitée pour effectuer l'étalonnage puis fermer le robinet. Après avoir vérifié que le nombre d'impulsions s'est complètement arrêté, appuyer sur ***Cal*** (si l'on appuie sur ***Cal*** quand le nombre d'impulsions est égal à zéro, une erreur est signalée).

Saisir le nombre de litres lus sur le bidon et appuyer sur ***Cal*** pour valider. L'instrument affiche le **Facteur K** calculé.

Appuyer sur ***Cal*** pour valider le nouveau **Facteur K**.

Fonction Mode (menu rapide) ***(Appuyer sur la touche Mode pendant 1 seconde, sélectionner à l'aide de la touche haut et bas)***

- Appuyer dessus pour sélectionner le totalisateur Permanent (Tp), avec Remise à zéro (Tr) ou Batch (Tb : affiché uniquement quand la fonction batch est sélectionnée sur au moins l'un des deux relais).

Fonction menu Configuration valeurs ***(Appuyer sur les touches Enter et Esc pendant 5 secondes)***

- Langue (Sélectionner la langue d'affichage du menu)
  - Disponible en Anglais (UK), Français (FR), Espagnol (ES), Allemand (DE), Italien (IT)
- Output mA (Configurer sortie en courant)
- Avancé (menu de gestion technique)

Fonction de restauration paramètres d'usine

- Mettre l'instrument hors tension.
- **Appuyer dans le même temps sur les touches Haut et Bas et allumer l'instrument**
- L'instrument affiche init._Default, sélectionner avec les touches Haut ou Bas Yes et appuyer sur Enter
- L'instrument recharge tous les paramètres par défaut

Remarque: Pour quitter les menus appuyer sur esc

3.3__CONFIGURATIONS GENERALES

Appuyer dans le même temps sur les touches Enter et Esc Programmation Valeurs :

Menu Programmation			
èlèments de menu		**paramètres d'usine**	**Limites**
Langue			
Sélection langue		UK	IT; FR; DE; ES
Relais de sortie 1 = Point de consigne (SP)			
Valeur Point de consigne		100 L/S	0÷99999,99
Type dosages		Haut	Haut o Bas
Hystérésis		0.0 L/S	0÷99999,99
Relais de sortie 1 = Batch			
Point de consigne (SP) Batch		1 L	1÷9999999
Type Batch		Bas	Haut o Bas
Relais de sortie 2 = Point de consigne (SP)			
Valeur Point de consigne		100 L/S	0÷99999,99
Type dosages		Haut	Haut o Bas
Hystérésis		0.0 litri/sec	0÷99999,99
Relais de sortie 2 = Batch			
Point de consigne (SP) Batch		1 L	1÷9999999
Type Batch		Bas	Haut o Bas
Output mA			
Plage 0/4÷20 mA		0÷20 mA	0÷20 mA ou 4÷20 mA
Valeur pour 0 / 4 mA		0	0÷99999,99
Valeur pour 20 mA		99999,99	0÷99999,99
Avancé			
Facteur K *		1.00	0,01÷99999,99
Compteur Eau*		1I/1L (Pulse/ Litres)	I=0÷999 L=0÷999
Unité débit		L/S	L/S ; L/M; L/H; m³/H;GPM
Unité totale		L	L; m³; GAL
Relais de sortie type 1		OFF	OFF, Set point ou Batch
Relais de sortie type 2		OFF	OFF, Set point ou Batch
Entrée Hold (elle peut être activée indépendamment sur RL1 ou 2**)**		RL1: ON – RL2: ON	RL1: OFF – RL2: OFF RL1: ON – RL2: OFF RL1: OFF – RL2: ON RL1: ON – RL2: ON
Calibrage Activé ou désactivé		ON	ON ou OFF
Statistiques			
	Valeur totalisateur permanent	0	0÷999999999
	Valeur totalisateur avec remise à zéro	0	0÷999999999
	Nombre signaux entrée Hold	0	0÷65535
	Remise à zéro Statistiques	Total reset mais tout. Permanent	
Tableau de Commande			
	Contact Relais 1	**Normalement Ouver**	N.O. ou N.C.
	Contact Relais 2	**Normalement Ouver**	N.O. ou N.C.
	Capteur de Flux	Fattore K	Fattore K ou Contatore Acqua
	Sortie en courant valeur manuelle	**Générateur de courant 0÷20 mA**	
	Signal sonde en entrée	**Affiche le signal en** Hz	
	Signal Hold présent	**Signal présent ON**	ON; OFF
	Entretien	01/01/10 (Mise à l'entretien ou pour enregistrer une date)	
	Révision Firmware	X.X	
Remise à zéro Instrument		Restaure les valeurs d'usine	
Mot de passe		0000	0000÷9999

* quand le paramètre **Avancé=>Panneau de commande=> Capteur de Flux = Facteur K**, dans le menu **Avancé** on aura visualisé **Facteur K**.

En réglant **Capteur de Flux= Compteur Eau**, dans le menu **Avancé** on aura visualisé **Compteur Eau**.

La sélection du capteur de flux dépends du type de capteur q'on est en train d'utiliser.

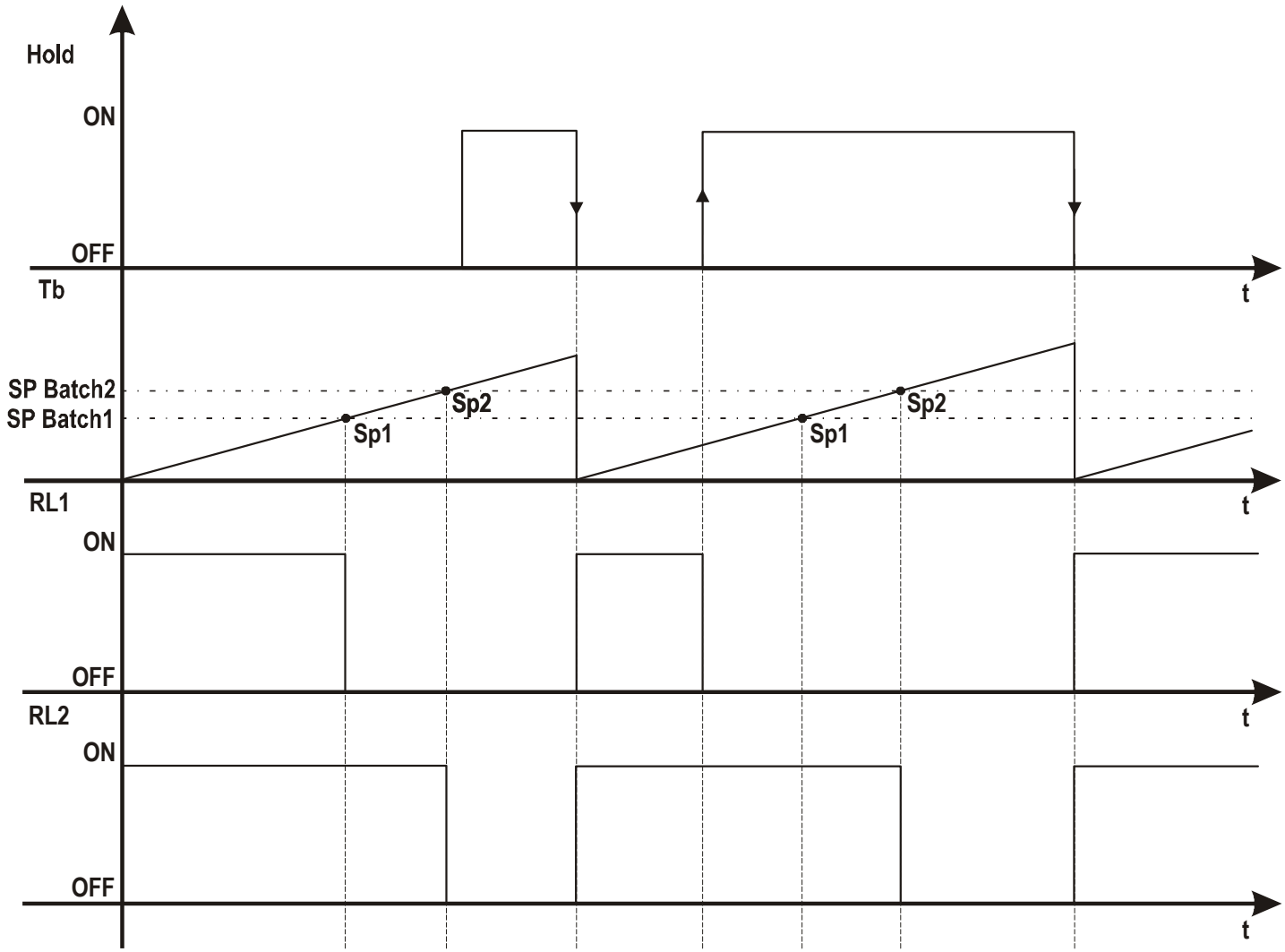
Si le capteur est étalonné depuis ces menus (**Facteur K** et **Compteur Eau**), l'instrument affiche (en bas à droite) le caractère « **C** » ; ce dernier indique que l'instrument utilise le paramètre calculé en fonction de l'étalonnage.

Signal Hold

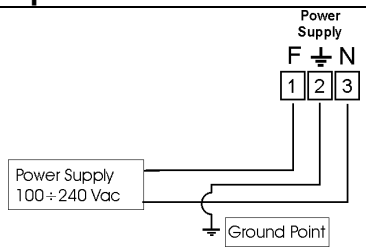
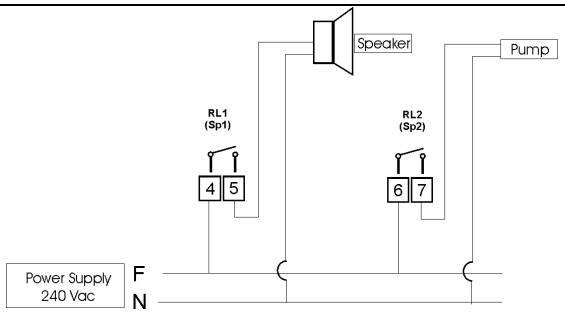
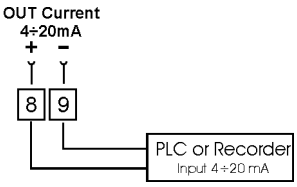
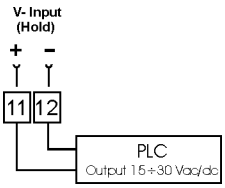
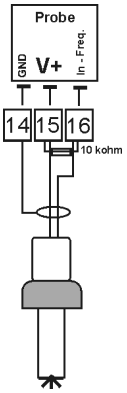
La fonction Hold s'active uniquement quand le signal a une durée égale ou supérieure à 4 secondes.
Quand au moins l'un des relais est activé, le Tb est réinitialisé sur le front de descente du signal.

Exemple:

Contact relais 1= N.O. (Normalement Ouver) Relais 1 = Batch Type Batch RL1= Bas
Contact relais 2= N.O. (Normalement Ouver) Relais 2 = Batch Type Batch RL2= Bas
Hold= RL1:ON – RL2:OFF



Branchements électriques

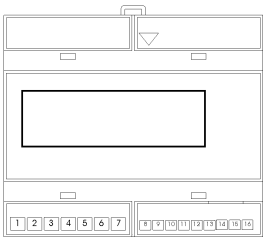
Alimentation	
Connexion Relais pour haut-parleur et pompe doseuse	
Sortie en courant pour API ou Enregistreur	
Entrée en tension depuis API contrôlée par l'Instrument de contrôle	
Connexion Sonde longueur maximum 300 mètres	

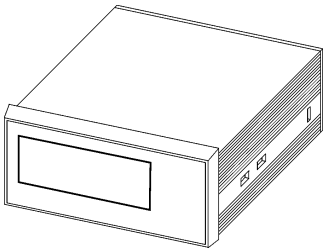
4 GUIDE À LA SOLUTION DES PROBLÈMES

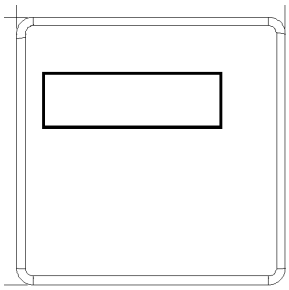
- **L'instrument ne s'allume pas…**
  - Vérifier que les cordons d'alimentation aient été correctement branchés
  - Vérifier que l'alimentation du réseau est présente
- **La sortie mA ne varie pas …**
  - Vérifier le branchement des cordons
  - Vérifier au moyen du Menu Principal "Contrôle Manuel" si la sortie produit l'effet désiré.
  - Contrôler les caractéristiques électriques du dispositif à distance (Charge maximale 500 ohm)
- **La tension sur la porte Vcc In ne bloque pas l'instrument…**
  - Vérifier les branchements électriques
  - Vérifier que le générateur à distance fonctionne.

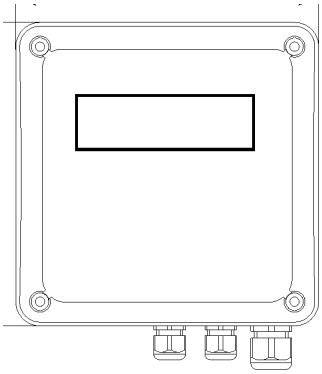
Remarque : En cas d'anomalie persistante, contacter le fournisseur.

Strumento per la misura del Flusso









INDICE

1	Prima di tutto	pag 2
2	Installazione	pag 3
3	Impostazioni e funzionamento	pag 5
4	Guida alla soluzione dei problemi	pag 9

1 PRIMA DI TUTTO

1.1 BENVENUTO

➲ Si prega di leggere attentamente il presente manuale, facendo particolare attenzione ad avvertenze e precauzioni. Seguire sempre le necessarie procedure di sicurezza, incluso l'impiego di adeguate protezioni per viso, occhi e abbigliamento.

1.2 IL CONTENUTO NELLA CONFEZIONE

- Strumento di misura
- Supporti di fissaggio
- Manuale Istruzione

1.3 CARATTERISTICHE TECNICHE

Campo di misura flusso: 0÷99999,99 Unità impostata (segnale entrata 0.5÷1500 Hz)
Accuratezza: 1% Fondo Scala

Uscite in Corrente: Campo di misura 0/4÷20 mA 1 (carico max 500 ohm) [Accuratezza ±2% F.S.]

Ingresso: 15÷30 Vac/dc

Alimentazione: 90÷265 Vac 50/60 Hz
Assorbimento: 5VA Max
Fusibile: 500 mA (ritardato)

Display: LCD 2 line 16 caratteri
Tastiera: Numero 4 tasti

Dimensioni meccaniche:

- DIN Rail quadro;
- 48 x 96 x 98 mm quadro,
- 96 x 96 quadro,
- 144 x 144 parete.

Grado di protezione:

- Din-Rail = IP40
- 48x96 = IP40
- 96x96 = IP65 pannello frontale
- 144x144 = IP65 intero box

1.4 AVVERTENZE

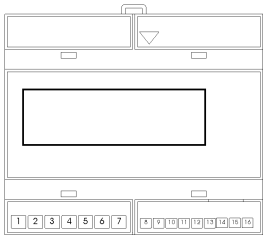
- Leggere attentamente questo manuale prima di procedere all'installazione e messa in funzione del sistema.
- Il gruppo di dosaggio deve essere connesso alla tensione d'alimentazione mediante un dispositivo di interruzione omnipolare con distanza di apertura maggiore uguale a 3mm.
- Verificare il modello di apparecchiatura acquistata per i riferimenti di installazione settaggio e programmazione contenuti in questo manuale.
- Per tutti I collegamenti fare riferimento alla mappa topografica del circuito di controllo riportata in questo manuale.
- ATTENZIONE: Seguire sempre le necessarie procedure di sicurezza, compreso l'uso di protezione adeguata di occhi, viso, mani ed indumenti.
- ATTENZIONE: Durante l'installazione o la manutenzione di questa apparecchiatura, scollegare sempre l'alimentazione.
- ➲ L'azienda lavora costantemente al perfezionamento di tutti i prodotti, riservandosi la facoltà di apportare modifiche in qualunque momento e senza preavviso alcuno.
- ➲ Il non rispetto delle norme contenute in questo manuale, potrebbe danneggiare cose o persone, compromettere il funzionamento o danneggiare l'apparecchiatura.

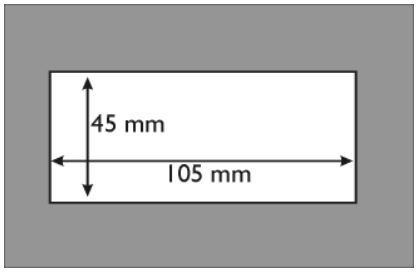
1.5 MATERIALE NECESSARIO PER L'INSTALLAZIONE

Munirsi di attrezzatura per fissare lo strumento

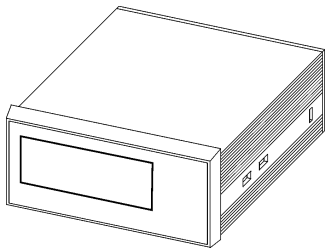
2 INSTALLAZIONE Meccanica ed Elettrica

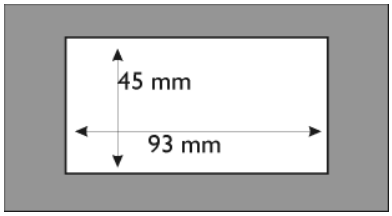
2.1.___Versione Din Rail (6 moduli Din EN50022)





2.2___Versione 48x96x100





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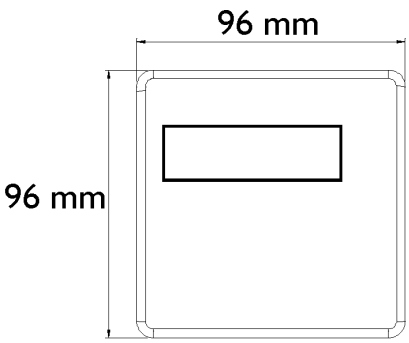
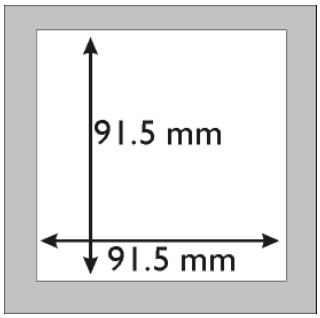
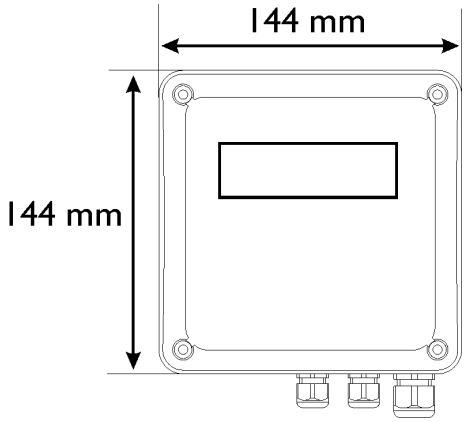
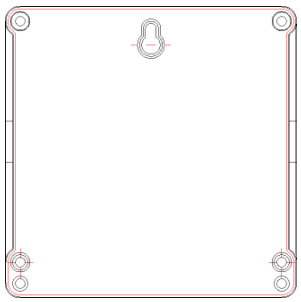
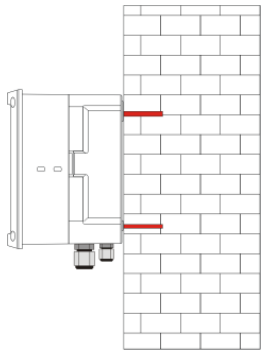




2.4___Versione 144x144x90



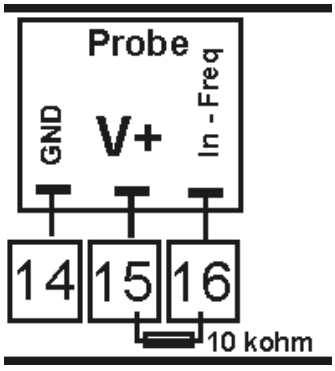




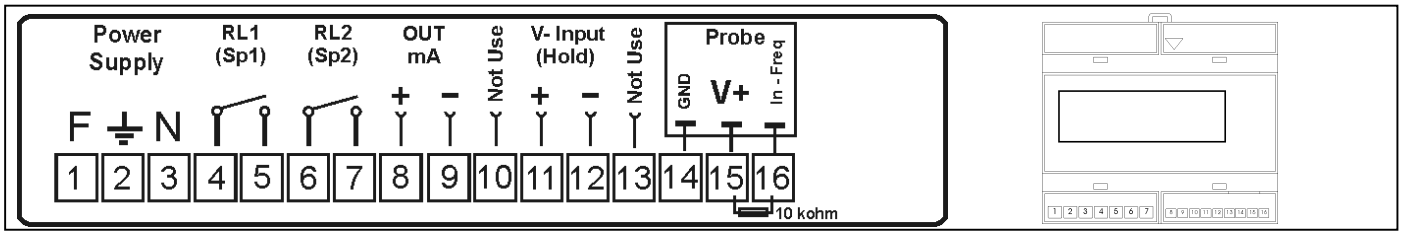
2.5 Descrizione connessioni elettriche

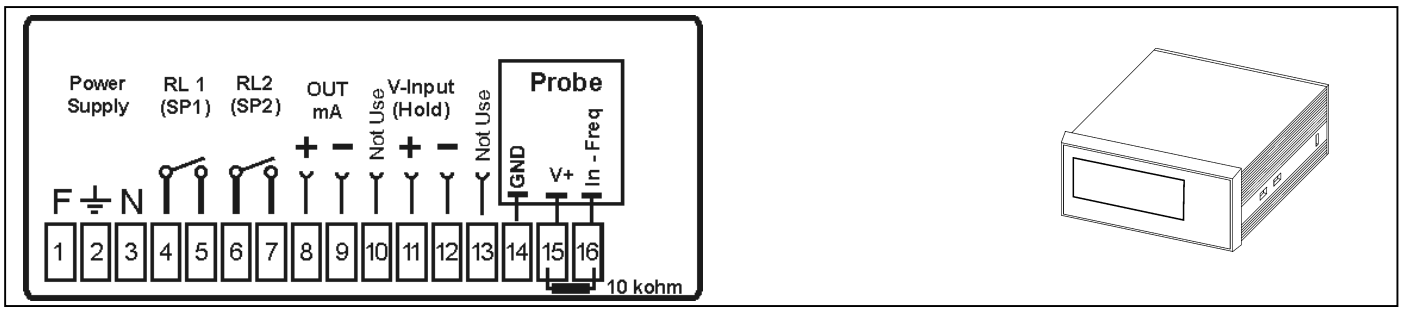
2.5.1__Tabella connessioni elettriche

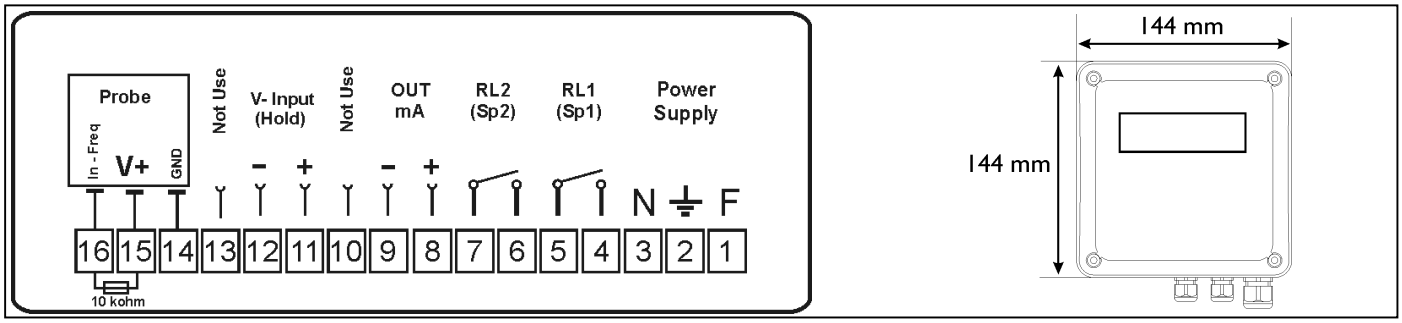
Morsetto	Descrizione
1	Fase (Alim.230 Vac)
2	Terra
3	Neutro (Alim. 230Vac)
4-5	Relè SetPoint 1
6-7	Relè SetPoint 2
8-9	Uscita in corrente 0/4÷20 mA
10	Non utilizzato
11-12	Ingresso 15÷30 Vac/dc **Hold**
13	Non utilizzato
14-15-16	Sensore flusso



2.5.2__Etichetta connessioni elettriche per ogni modello







2.6 CONNESSIONI IDRAULICHE

Nessuna

3.0___IMPOSTAZIONI E FUNZIONAMENTO

3.1___Visualizzazione Strumento

Area 1 = Visualizzazione misura flusso o il segnale Hold se attivo.
Area 2 = Visualizzazione totalizzatore permanente (Tp), resettabbile (Tr) o batch (Tb) del flusso, selezionabile col tasto **Mode**

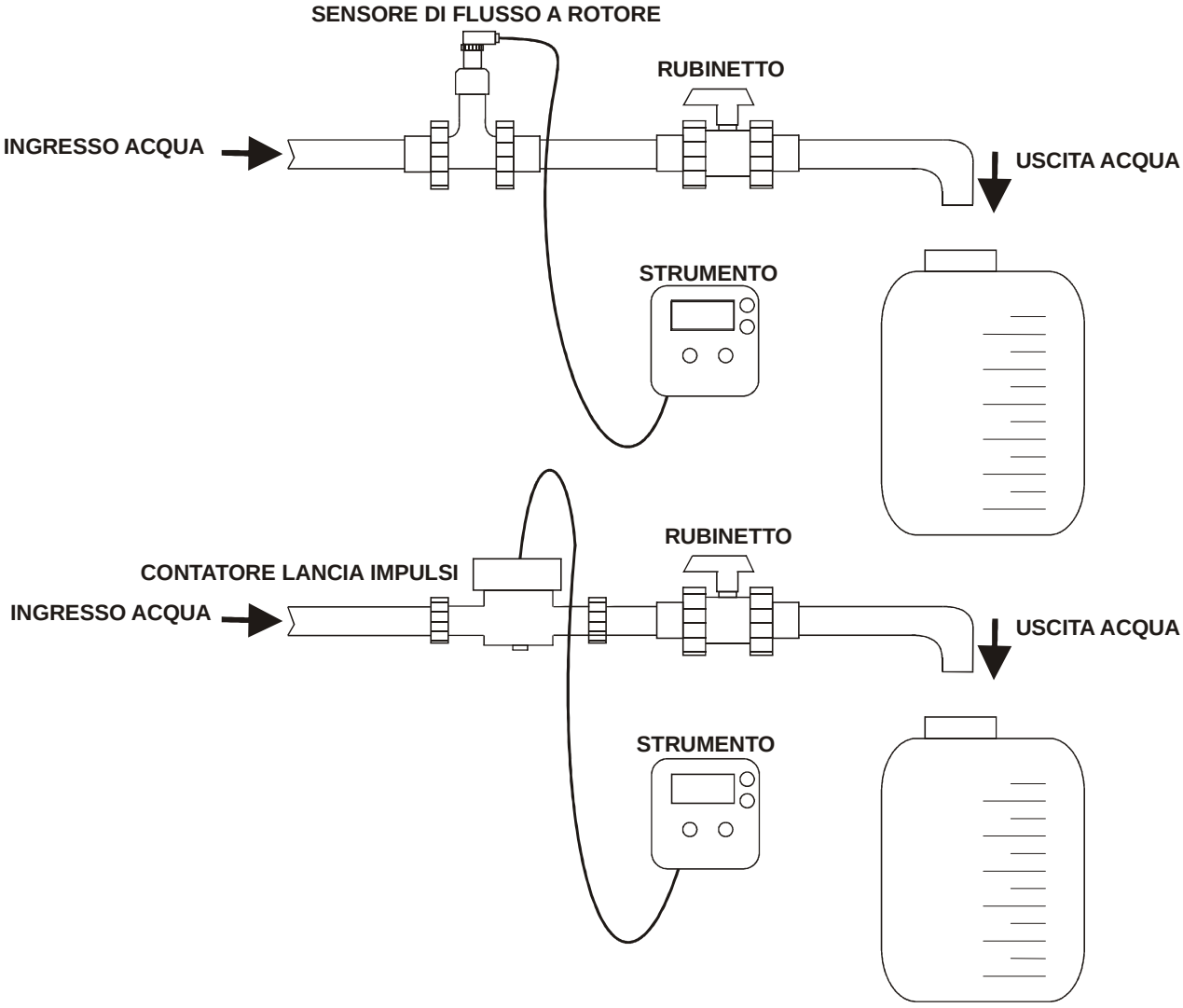
3.2__Tastiera strumento

Esc/Mode = Tasto con doppia funzione **Esc** = Uscita immediata dal menù **Mode**= menu regolazioni veloci
Enter/ Cal = Tasto con doppia funzione **Enter** = Conferma funzione **Cal** = Accesso immediato calibrazione
Su = Tasto incremento o durante il normale funzionamento, visualizzando sul display il Tr (Totalizzatore resettabile) o il Tb (Totalizzatore batch) è possibile resettarli tenendolo premuto per 3 secondi.
Giù = Tasto decremento

Importante:

A)Selezionare il sensore sul menù **Avanzato=>Pannello di Controllo=> Sensore Flusso= Fattore K o Contatore Acqua**
B) Impostare il parametro a seconda del sensore:
- **B.1)** Sensore di flusso a rotore inserire il **Fattore K**
- **B.2)** Contatore lancia impulsi inserire **impulsi/litro**

Funzione Calibrazione Sensore



Per avviare la procedura di calibrazione del sensore, premere il tasto ***Cal*** per 3 secondi.
Se si vuole arrestare la procedura di calibrazione, premere il tasto ***Esc*** in qualsiasi momento.
Lo strumento visualizza:

Prima di avviare la procedura assicurarsi che:

- nella condotta interessata del sensore non vi siano bolle d'aria;
- la tanica graduata sia vuota;
- il rubinetto sia chiuso;

Premere **Cal** lo strumento visualizza:

Nota: il numero in basso a sinistra indica il numero di impulsi generati dal sensore.

Aprire il rubinetto e riempire la tanica graduata fino alla quantità di acqua desiderata per effettuare la calibrazione, quindi chiudere il rubinetto. Dopo aver verificato che il numero di impulsi si sia arrestato completamente, premere ***Cal.*** (Se il tasto ***Cal*** viene premuto con il numero di impulsi pari a zero, viene segnalato l'errore.)

Inserire il numero di litri letti sulla tanica e premere ***Cal*** per confermare. Lo strumento visualizza il **Fattore K** calcolato.

Premere ***Cal*** per confermare il nuovo **Fattore K.**

Funzione Mode (menù veloce) *(Premere il tasto **Mode** per 1 secondo)*

- Premere per selezionare il totalizzatore Permanente (Tp), Resettabbile (Tr) o Batch (Il Tb viene visualizzato solo se almeno uno dei due relè è impostato sulla funzione batch).

Funzione menù Impostazione valori *(Premere i tasti **Enter** ed **Esc** per 5 secondi)*

- Lingua (Impostare la lingua di visualizzazione menu)
  - Disponibile in Inglese (UK), Francese (FR), Spagnolo (ES), Tedesco (DE), Italiano (IT)
- Output mA (Impostare uscita in corrente)
- Avanzato (menù di gestione tecnica)

Funzione di ripristino parametri di Fabbrica

- Spegnere lo strumento
- Premere Tasti **Su** e **Giù** insieme ed accendere lo strumento
- Lo strumento visualizza init._Default selezionare con i tasti Su o Giù Yes e premere Enter
- Lo strumento ricarica tutti i parametri di Fabbrica

Nota: Per uscire dai menù premere **Esc**

3.3__IMPOSTAZIONI GENERALI

Pressione tasti **Enter e Esc** contemporaneamente Programmazione Valori:

Menu Programmazione			
Voci Menù		**Default**	**Limiti**
Lingua			
Impostazione lingua		UK	IT; FR; DE; ES
Relè di uscita 1 = Set Point			
Valore Set point		100 L/S	0÷99999,99
Tipo dosaggio		Alto	Alto o Basso
Isteresi		0.0 L/S	0÷99999,99
Relè di uscita 1 = Batch			
Set Point Batch		1 L	1÷9999999
Tipo Batch		Basso	Alto o Basso
Relè di uscita 2 = Set Point			
Valore Set point		100 L/S	0÷99999,99
Tipo dosaggio		Alto	Alto o Basso
Isteresi		0.0 L/S	0÷99999,99
Relè di uscita 2 = Batch			
Set Point Batch		1 L	1÷9999999
Tipo Batch		Basso	Alto o Basso
Output mA			
Range 0/4÷20 mA		0÷20 mA	0÷20 mA o 4÷20 mA
Valore per 0 / 4 mA		0	0÷99999,99
Valore per 20 mA		99999,99	0÷99999,99
Avanzato			
Fattore K *		1.00	0,01÷99999,99
Contatore Acqua*		1l/1L (Impulsi/ Litri)	I=0÷999 L=0÷999
Unità flusso		L/S	L/S ; L/M; L/H; m³/H;GPM
Unità totale		L	L; m³; GAL
Relè di uscita tipo 1		OFF	OFF, Set Point o Batch
Relè di uscita tipo 2		OFF	OFF, Set Point o Batch
Ingresso Hold (Può essere attivato indipendentemente sul RL1 o 2)		RL1: ON – RL2: ON	RL1: OFF – RL2: OFF RL1: ON – RL2: OFF RL1: OFF – RL2: ON RL1: ON – RL2: ON
Calibrazione Abilitata o disabilitata		ON	ON o OFF
Statistiche			
	Valore totalizzatore permanente	0	0÷999999999
	Valore totalizzatore resettabbile	0	0÷999999999
	Numero segnali ingresso Hold	0	0÷65535
	Reset Statistiche	Azzero tutto tranne Total. Permanente	
Pannello di Controllo			
	Contatto Relay 1	Normalmente aperto	N.O. o N.C.
	Contatto Relay 2	Normalmente aperto	N.O. o N.C.
	Sensore Flusso	Fattore K	Fattore K o Contatore Acqua
	Uscita in corrente valore manuale	Generatore di corrente 0÷20 mA	
	Segnale sonda in ingresso	Visualizza il segnale in Hz	
	Segnale Hold presente	Segnale presente ON	ON; OFF
	Manutenzione	01/01/10 (Data ultima manutenzione o registro di una data utile)	
	Revisione Firmware	X.X	
Reset Strumento		Ripristina i valori di default	
Password		0000	0000÷9999

* Quando il parametro **Avanzato=>Pannello di Controllo=> Sensore Flusso= Fattore K**, nel menù **Avanzato** compare la voce **Fattore K.**

Impostando **Sensore Flusso= Contatore Acqua**, nel menù **Avanzato** compare la voce **Contatore Acqua.**

La selezione del sensore di flusso dipende dal tipo di sensore che si sta utilizzando.

Se il sensore viene calibrato in questi menù (**Fattore K** e **Contatore Acqua**), viene visualizzata (in basso a destra) il carattere "**C**", che sta ad indicare che lo strumento utilizzerà il parametro ricalcolato in base alla calibrazione.

Segnale Hold

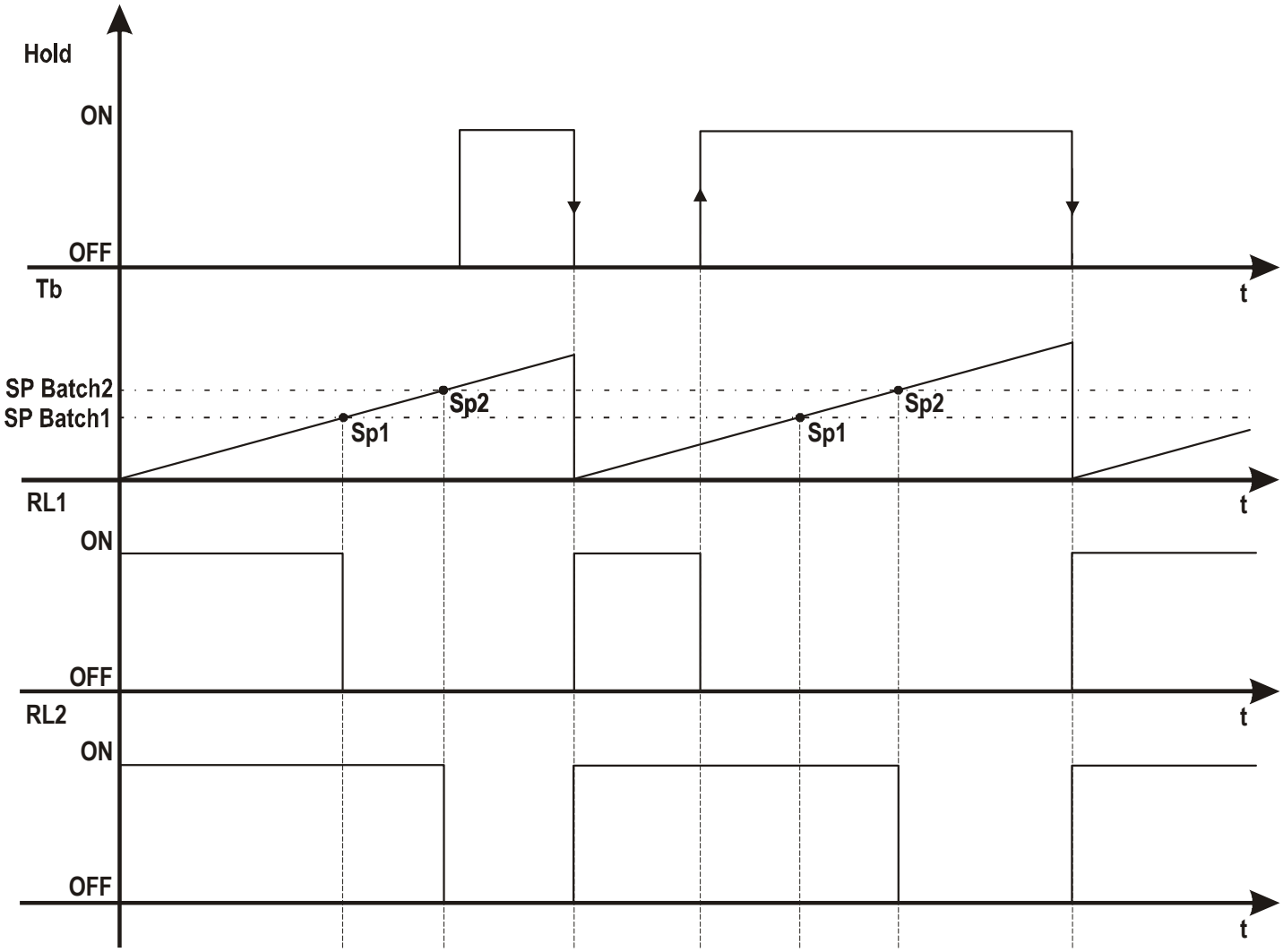
L'Hold si attiva solo se il segnale ha una durata maggiore o uguale a 4 secondi.
Sul fronte di discesa del segnale viene resettato il Tb se attivo su almeno un relè.

Esempio Funzionale:

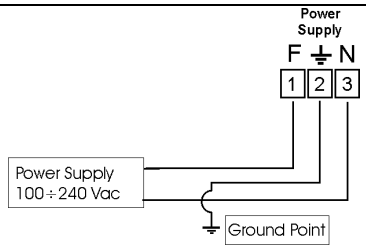
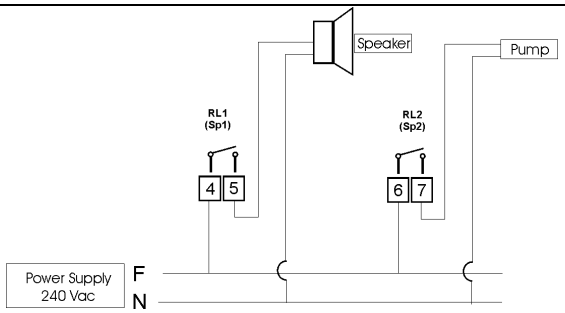
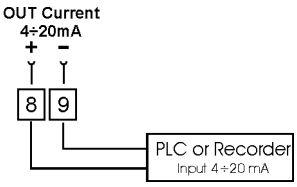
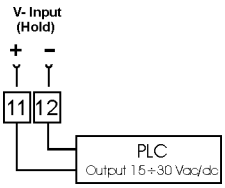
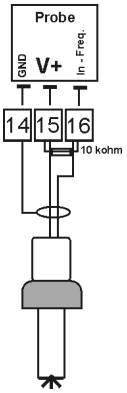
Relè 1= N.O. (Normalmente aperto)
Relè 2= N.O. (Normalmente aperto)
Hold= RL1:ON – RL2:OFF

Relè 1 = Batch
Relè 2 = Batch

Tipo Batch RL1= Basso
Tipo Batch RL2= Basso



Connessioni elettriche

Alimentazione	
Connessione Relay per altoparlante e pompa dosatrice	
Uscita in corrente per PLC o Record	
Ingresso in tensione da PLC visionato dallo Strumento di controllo	
Connessione Sonda lunghezza massima 300 metri	

4 GUIDA ALLA SOLUZIONE DEI PROBLEMI

- **Non si accende…**
  - Verificare se sono stati collegati correttamente i cavi di alimentazione
  - Verificare se è presente l'alimentazione di rete
- **L'uscita mA non varia…**
  - Verificare la connessione cavi
  - Verificare tramite il Menù Principale "Controllo Manuele" se l'uscita produce l'effetto desiderato.
  - Controllare le caratteristiche elettriche del dispositivo remoto (Massimo carico 500 ohm)
- **La tensione sulla porta Vdc In non blocca lo strumento…**
  - Verificare le connessioni elettriche
  - Verificare se il generatore remoto sia funzionante.

Nota: Nel caso di anomalia persistente contattare il fornitore.

ADDENDUM

FR -Mise au rebut du produit / Protection de l'environnement :
Conformément aux exigences de la directive DEEE - 2002/96/CE (Déchets d'Équipements Électriques et Électroniques), les produits électriques et électroniques usagés doivent être détruits séparément des ordures ménagères normales afin de promouvoir la réutilisation, le recyclage et d'autres formes de récupération, ainsi que de limiter la quantité de déchets devant être éliminés et de réduire du même coup les décharges. **Lorsque vous vous débarrasserez de ce produit, respectez les prescriptions locales pour l'élimination des déchets. Ne le jetez pas dans la nature, mais remettez-le à un centre de collecte spécialisé de rebuts électriques et électroniques et/ou renseignez-vous auprès de votre revendeur lors de l'achat d'un nouveau produit.**

UK - Product waste disposal / Protection of the environment:
In accordance with the provisions of the Waste Electrical and Electronic Equipment (WEEE - 2002/96/EC) Directive, used electric and electronic products must be destroyed separately from normal household waste in order both to promote re-use, recycling and other forms of recovery and to reduce the quantity of waste to be destroyed and hence the disposal operations. **When you dispose of this product, comply with the local waste disposal instructions. Do not throw it away in the middle of nowhere: take it to a waste collection centre that specialises in used electrical and electronic products and/or consult your dealer when buying a new product.ES - Eliminación del producto / Protección del medio ambiente:**

ES - Eliminación del producto / Protección del medio ambiente:
De conformidad con las exigencias de la directiva RAEE - 2002/96/CE (Residuos de Aparetos Eléctricos y Electrónicos), los productos eléctricos y electrónicos usados deberán destruirse aparte de las basuras domésticas normales con el fin de facilitar la reutilización, el reciclaje y otras formas de recuperación, así como de limitar la cantidad de residuos que deben ser eliminados y reducir al mismo tiempo los vertederos. **Cuando se desprenda de este producto, respete las normas locales de eliminación de residuos. No lo arroje al medio ambiente, entréguelo en un centro de recogida especializado en residuos eléctricos y electrónicos o infórmese a través del vendedor cuando adquiera un nuevo producto. DE -Entsorgung Des Produktes - Umweltschutz:**

DE -Entsorgung Des Produktes - Umweltschutz:
In Übereinstimmung mit der EEAG-Richtlinie - 2002/96/EG (Entsorgung von Elektro- und Elektronikabfällen) müssen Elektro- und Elektronik-Altgeräte vom normalen Hausmüll getrennt entsorgt werden, um die Wiederverwendung, das Recycling und andere Arten der Wiedergewinnung zu fördern sowie die zu vernichtende Abfallmenge zu beschränken und somit gleichzeitig die Mülldeponien zu reduzieren. **Beachten Sie bitte die lokalen Vorschriften für die Entsorgung von Abfällen, wenn Sie sich von diesem Gerät trennen möchten. Werfen Sie es nicht in die Natur, sondern geben Sie es bei einer speziellen Sammelstelle für Elektro- und Elektronikabfälle ab und/oder informieren Sie sich bei Ihrem Händler beim Kauf eines neuen ProduktesIT - Scarto in disparte del prodotto / Protezione dell'ambiente:**

IT - Scarto in disparte del prodotto / Protezione dell'ambiente:
In conformità con le esigenze della direttiva RAEE – 2002/96/CE (Rifiuti di Apparecchiature Elettriche ed Elettroniche), i prodotti elettrici ed elettronici usati devono essere distrutti separatamente dai normali rifiuti domestici allo scopo di favorire il riutilizzo, il riciclaggio e le altre forme di recupero, oltre a limitare la quantità di rifiuti che devono essere eliminati ed a ridurre allo stesso tempo le discariche. **Quando dovete sbarazzarvi di questo prodotto, rispettate le norme locali per l'eliminazione dei rifiuti. Non gettatelo in mezzo alla natura, ma consegnatelo ad un centro di raccolta specializzato in scarti elettrici ed elettronici e/o informatevi presso il vostro rivenditore al momento dell'acquisto di un nuovo prodotto. NL -Wegwerpen van het product / Bescherming van het milieu:**

NL -Wegwerpen van het product / Bescherming van het milieu:
In overeenstemming met de vereisten van de AEEA – richtlijn - 2002/96/EG (afgedankte elektrische en elektronische apparatuur), dienen versleten en gebruikte elektrische en elektronische producten apart van het normale huisvuil vernietigd te worden ter bevordering van hergebruik, recycling en andere vormen van herverwerking om zo tegelijkertijd de hoeveelheid te verwerken afvalstoffen alsmede de omvang van de vuilstortplaatsen terug te dringen. **Neem, indien u dit product weg wilt werpen, de voorschriften voor afvalverwerking in acht. Werp het product niet in de natuur weg maar breng het naar een specifiek verzamelpunt voor elektrisch en elektronisch afval en /of vraag uw dealer om inlichtingen tijdens de aanschaf van een nieuw product. PT - Eliminação do produto / Protecção do ambiente :**

PT - Eliminação do produto / Protecção do ambiente :
Nos termos do disposto na Directiva relativa aos resíduos de equipamentos eléctricos e electrónicos – 2002/96/CE (REEE), e com vista à promoção da reutilização, da reciclagem e de outras formas de recuperação, por um lado, e a limitar a quantidade de resíduos a serem eliminados e, simultaneamente, a reduzir as descargas, pelo outro, os produtos eléctricos e electrónicos usados devem ser eliminados separadamente em relação ao lixo doméstico. **Quando este seu produto chegar ao fim da sua vida útil, cumpra o disposto na legislação local relativamente à eliminação de resíduos. Nunca junte este produto ao lixo doméstico; em vez disso, entregue-o num centro de recolha especializado na eliminação de produtos eléctricos ou electrónicos e/ou informe-se das medidas a tomar junto do seu revendedor aquando da aquisição de um produto novo**